A Presidential Address
ON
THEN AND NOW, IN SURGERY.

Delivered before the Medical Society of London on Oct. 8th, 1906,

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GENTLEMEN,—I cannot commence my address without alluding to the great loss which the society has sustained by the sudden death of Mr. David Goodsall. Many of us feel his death as a personal loss and all who have taken an active part in the work of our society know how greatly we are indebted to him. Ever since I was elected secretary in 1889 I have been cognisant of his unselfish labours. Much of our present prosperity is due to his influence and sagacity. As a member of the finance committee and as treasurer he for nearly 30 years rendered the society unremitting, unostentatious, and valuable service. The quiet, gentle, and thoughtful manner in which he was wont to impart information and tender advice at the meetings of the council will long be remembered. Well may the Medical Society of London say of Goodsall:—

> "Life's race well run,
> Life's work well done."

This is the 134th session of the Medical Society of London. Almost all the more prominent members of the profession in London during this long series of years have belonged to our venerable society. I feel, therefore, that the great honour you have conferred upon me by electing me your President for the coming session entails no mean responsibility, but as I have the good fortune to be associated with experienced and enthusiastic colleagues I trust that the session will be as useful and successful as any of its predecessors.

The aim of our society is the promotion of every branch of medicine and surgery and the cultivation of friendly rivalry in this high cause. Last October my distinguished predecessor spoke of the great changes which had taken place within his own experience in the science and practice of medicine and this naturally suggested to me that, by way of a corollary, I might offer a few remarks on the development of surgery before and within my own experience. An interesting account of the adventures of a Greek surgeon in the fifth century before Christ named Dêmokêdês, referred to by Grote, affords evidence of the intelligence and skill of the Greek surgeons. Darius, King of Persia, in leaping from his horse while following the chase, injured his foot. He was in violent pain for seven days and nights which the Egyptian physicians who attended him failed to relieve. Dêmokêdês, at that time a prisoner and a slave, succeeded perfectly, though he appears to have required some persuasion to undertake the dangerous task of treating so formidable a patient. Being asked whether he understood surgery he affected ignorance, but Darius, suspecting this to be a mere ruse, ordered out the scourge and the pricking instrument to overcome it. Dêmokêdês now saw that there was no resource, admitted that he had acquired some little skill, and was called upon to do his utmost in the case before him. He alleviated the pain, procured sleep for the exhausted patient, and ultimately restored the foot to a sound state. It would seem that he reduced a dislocation or put up a Pott's fracture in plaster-of-Paris; probably then called plaster-of-Athens. Dêmokêdês showed a consideration for his discomfited predecessors well worthy of imitation in the present day, for he interceded for the Egyptian physicians whom Darius proposed to crucify as a mark of his resentment. The history further relates the successful treatment by Dêmokêdês of Atossa, Queen of Persia, for tumour in the breast. The notes of this case have unfortunately been lost and so we are deprived of the chance of tracing in the mind of Dêmokêdês a knowledge of the principles underlying the Halsted operation.

In the days of Hippocrates (B.C. 460) the distinction between medicine and surgery apparently did not exist. Celsus, writing 50 years before the Christian era, seems, in the following passage, to refer to surgery as a branch but recently separated from general medicine: "It may perhaps be asked what is the domain of this branch (that is surgery) since surgeons claim for themselves the treatment of many wounds and ulcers of which I have elsewhere spoken. Personally I believe that one man may well undertake the whole but since there are divisions I commend him whose practice embraces the most. I have, however, abandoned to surgery firstly the cases where the practitioner himself makes the wound instead of finding it ready made; secondly, wounds and ulcers for which, I believe, much more may be done by the hand than by drugs, and, lastly, all that concerns the bones." For many centuries the sphere of surgery was not much enlarged but "plus profici manû quam medicamento" is now true of a great and constantly increasing number of diseases. In clinical observation Hippocrates was not inferior to the wisest practitioner of the nineteenth century. Sydenham (1650), one of the great founders of modern medicine, has often been called the English Hippocrates and resembled his Greek prototype, who practised 21 centuries before him, in the high value he set on the study of the natural history of disease. Hippocrates's knowledge of anatomy, physiology, and pathology was necessarily defective. The superstitions entertained by the Greeks respecting the dead precluded him from practising human dissection. He had, however, worked at the skeleton of man and dissected apes and quadrupeds. If the ancient Greeks when they reached the zenith of their culture had studied the anatomy of the human body in health and disease their medical knowledge would have been but little inferior to that of the present day.

Human anatomy is the basis of surgical and medical knowledge. The science of surgery therefore dates from the foundation of the schools of Alexandria by Ptolemy Soter, King of Egypt (B.C. 285), for it was there that by Erasistratus and Herophilus human anatomy was first systematically studied and taught. All the knowledge thus garnered seems to have been lost in the burning of the Alexandrian libraries (640) and in the wars and tumults of the early centuries after Christ. Gibbon denies this. He says: "Nor can it be fairly presumed that any important truth, any useful discovery in Art or Nature has been snatched away from the curiosity of modern ages." His editor says that since the time of Gibbon several new authorities have been adduced in favour of the opposite view. He mentions, too, that a similar charge of wanton destruction was brought against the Crusaders. The library of Tripoli containing 3,000,000 volumes was, on the capture of the city, ordered to be burnt by Count Bertram of St. Gilles because the first room which he entered contained nothing but the Koran." Who can tell what treasures of surgical knowledge were lost in the burning of that royal library or in the doom of "Babylon the glory of the Kingdoms, the beauty of the Chaldees' Excellency."

At first sight it is indeed a matter of wonder that we know as much as we do of ancient times for, as Dean Milman remarks, "the whole state of the known world at that period seems to offer no more secure footing to an historical adventurer than the chaos of Milton, to be in a state of irreclaimable disorder, best described in the language of the poet"—

> "A dark
> Illimitable ocean, without bound,
> Without dimension, where length, breadth, height
> And time, and place are lost; where eldest Night
> And Chaos, ancestors of Nature, hold
> Eternal Anarchy, amidst the noise
> Of endless wars, and by confusion stand."

Certain it is that from the date when the learning of Alexandria was lost the spirit of man was content to occupy its earthly tabernacle for more than 1000 years without anatomical and physiological inquiry, till indeed the rise of the famous sixteenth century school of anatomists. "In the very natal city of human anatomy it is but 38 years since the death of Clot Bey the first public lecturer on Anatomy in Egypt for about seventeen hundred years. So strong are Mussulman prejudice and hatred that a student rushed upon him and stabbed him with a poniard, when he first opened the thorax of a body, although he was under the protection of the Pasha Mehemet Ali. The blade slid over the ribs and Clot Bey, perceiving that he was not seriously hurt, took a piece of plaster from his dressing-case and, applying it to the wound, coolly observed to the class, 'We were speaking,

gentlemen, of the disposition of the ribs and sternum and I now have the opportunity of showing how a blow directed from above has so little chance of penetrating the thorax,' and went calmly on with his lecture."

Among the names recorded on the walls of the Kasr-el-Aini Hospital it is interesting to note that of an Arabian physician who wrote several books, one of which was entitled, "On the Rarity of Good Doctors and the Abundance of Bad Ones." In the early years of Clot Bey's work the wards of the Cairo hospital are described as small and badly ventilated and were too near a large cemetery where the dead were so carelessly buried that the stench was most terrible in the hospital and the patients were kept awake at night by the hyenas fighting over the unearthed corpses. One of Clot Bey's greatest services to Egypt was the introduction of vaccination. Every year before this was accomplished 60,000 children died annually from small-pox.

Not least among the benefits of English influence in Egypt is the now flourishing Egyptian school of medicine at Cairo in which several of my friends occupy prominent posts. Most of us are acquainted with the excellent work, begun over 20 years ago, of Sandwith and Milton at the Kasr-el-Aini hospital. Surrounded as we are in this city with every luxury of assistance, it is hardly possible for any one of us to appreciate the immense difficulties successfully overcome by Milton when he commenced work at Cairo. He undertook capital operations without assistants and without nurses. He would sit up all night with cases after serious operations, and Dr. Sandwith has told me that on one occasion at the close of an operation the patient being *in extremis* Milton opened a vein in his own arm and performed direct transfusion with his own blood. Thanks to the pioneer workers of the last century in the Egyptian wilderness the present school of medicine in that country is in a flourishing state, and not the least interesting fact I may record is that every Egyptian student on leaving the medical school is required to take an Arabic version of the Hippocratic oath.

OATH OF THE DOCTORS.[1]

I swear, in the name of God the most High, and of his sublime prophet Muhammad, whose glory may God increase, to be faithful to the laws of honour, honesty and benevolence in the practice of medicine. I will attend the poor gratuitously, and will never exact too high a fee for my work. Admitted into the privacy of a house, my eyes will not perceive what takes place; my tongue will guard the secrets confided to me. My art shall not serve to corrupt, nor to assist crime, and I will not yield, under any pretext or persuasion, to prescribing any poison to anyone. I will neither give nor prescribe to any pregnant woman dangerous drugs, capable of provoking or producing an abortion. Ever respectful and grateful to my masters I will hand on to their children the instruction which I have received from their fathers.

May I be respected by men if I remain faithful to my vow! If not, may I be covered with shame and be despised! God is witness to what I have said! The oath is finished.

It appears to me that the ancients knew more than we usually give them credit for. This is no new opinion, for Celsus said: "Though we should not refuse to give modern authors due credit for their discoveries or happy imitations, it is none the less just to restore to the ancients what properly belongs to them." The natural outcome of the Alexandrian studies was the ligature of arteries with silk or catgut for the arrest of hæmorrhage and the cure of aneurysm, but it is not known by whom it was first practised, though Evelpistus is stated to have introduced it into Rome and it is clearly described by Celsus and Galen. Is it conceivable that these great men were wholly ignorant of the physiology of the vascular system? Is it not more likely that as Ambroise Paré rediscovered in 1570 the use of the ligature "by special favour of the Sacred Deity," so Harvey in 1618 re-demonstrated to the modern world what had been understood, though perhaps only dimly, by the Alexandrian school? In the Louvre there is a Greek statue of a gladiator brought down by a small wound in the thigh. The marble so vividly recalls the flat sheet of blood which would issue from a transverse wound in the femoral artery as to suggest that some degree of anatomical and physiological knowledge must have guided the sculptor's hand.

Celsus refers to the ligature of vessels, not as a new discovery, but as a matter of current practice. The passage runs: "If the hæmorrhage still persists the vessels from which the blood flows must be seized in the wound, tied in two places, and divided between them, so that they may retract and at the same time have their orifices occluded. ... ... Also, when there is much hæmorrhage from a place without important muscles and nerves, such as the forehead or the top of the head, the most handy thing to do is to apply a cupping glass in the vicinity in order to divert the course of the blood." How could Celsus have written "sanguinis cursus revocetur" without having had some idea of a blood current? In another place Celsus advises tying vessels during an operation before dividing them.

Galen wrote, "But if on laying bare the vessel it should appear to you large and to pulsate strongly, it is safer for the operator to put a double loop round it and to divide between, and let these ligatures be of a material which will not readily decompose. Such a material in Rome can be got from the Gaietans who bring it from the country of the Kelts and sell it in the Via Sacra, which leads from the temple of Roma to the markets. This is the easiest thing to get in Rome and it is sold very cheaply there; but if you are practising your art in another city prepare for yourself some threads known as silk; rich women have these in many parts of the Roman Empire and especially in large cities. If you cannot get this choose the material least liable to decompose from among those that you can get where you are, such as fine cat-gut, for materials which easily decompose fall quickly out of the vessels, but we wish the knot only to fall out when the vessels have been well covered round with flesh, for the flesh which grows up in the parts of the vessels which have been cut off acts as a covering and stops their mouths, and when this has happened is the time for the ligatures to separate without danger." And again: "If the artery be large, and if it be cicatrised beyond the aneurysm, the whole of it should be cut through, and oftentimes that very practice prevents the danger from hæmorrhage, for it appears plainly that when a complete transverse division is made both portions of the artery retract on either side, the one above the part the other below."

It is related that the use of the ligature by Ambroise Paré encountered much opposition from certain of his rivals who did not hesitate to revile both him and it in the coarsest language. To one of these, a certain Dr. Gourmelin attached to the Paris Faculty of Medicine, who had compared him to an executioner, the great surgeon replied: "Come, now, my good little fellow, try to understand the ancient authors a little better and be more just to your contemporaries. You make a profession of learning and do not know that ligature of vessels was a familiar practice with the ancients; you meddle with teaching and do not know that almost in our own days, in Germany and in Italy a return to this practice has been made. You write books but they only serve to retard the progress of our art by keeping up the most dangerous errors and by reviling and discouraging those whose endeavours are directed to its advancement. Which of us two do you think most resembles that officer of justice to whom you have not been ashamed to compare me, you who can only talk of boiling oil and hot irons to arrest hæmorrhage, or I, who arrest it by tying the vessels from which it comes."

During the middle ages, indeed until the time of Hunter, surgery showed no great advance over that of the time of Celsus; even at a later epoch current practice was in some respects by no means better than that advised by Celsus. I remember well enough a woman walk into the hospital when I was a dresser with her intestines in her petticoats, a hernial scar having given way. The surgeon washed the intestines with milk and returned them into the abdomen. Celsus directs that intestines protruded through an abdominal wound should be washed with water mixed with a little oil and returned into the abdominal cavity. He gives explicit directions as to enlarging the wound, holding up the edges of the divided peritoneum, suturing a perforation of the intestine, cutting away gangrenous omentum, and finally closing the wound in layers.

When I entered the profession the obstacles to the study of human anatomy had been removed and clinical observation combined with post-mortem study had greatly increased our knowledge of disease. The work of Lebert, Auvert, Cruveilhier, Bright, and Hooper was being carried on by Bristowe, Cornil and Ranvier, Wilks, Fagge, and many others. Virchow's most influential writings were of recent date. The work of the experimental school of Pasteur and Lister had but commenced to influence the profession. When I was a house surgeon we used the steam spray and carbolic lotion but the surgeons made a point of operating in old coats bespattered with the blood and pus from many a field day. Prolonged efforts were frequently made to reduce

[1] From Dr. Sandwith's paper, The History of Kasr-el-Aini.

strangulated hernia before operating; the reduction of intussusception was attempted with the kitchen bellows; intestinal and gastro-intestinal anastomosis were unknown. No attempt was made to open brain abscess unless obviously beneath a fracture. Operation for brain tumour was unheard of. The mastoid operation was not performed in any London hospital. No operations were performed on the heart or spleen. Patients with renal and biliary calculi were left to their fate. Appendix operations were not done, though gangrenous appendicitis and its results had been already described and figured by Lebert. The risk of surgical operations was still so considerable that they were often delayed as long as possible.

The place that surgical intervention occupies in the treatment of disease is now quite different; so little is the risk and discomfort attending most operations that surgical intervention has now become the method of choice for those affections amenable thereto. The work of the last 15 years is known to you all and I need not mention it. The rise of modern surgery began with the discoveries of anæsthesia and antisepsis. Had it not been for the genius of Simpson chloroform might still be unknown, and had not Pasteur's revelation of the world of microscopic organisms in their relation to the processes of fermentation and putrefaction led Lister to make the first and most important application of bacteriology to the prevention of disease countless preventable deaths might still be occurring. Both of Pasteur and of Lister we delight to affirm, as Macaulay did of a great statesman, "History will deliberately pronounce that among eminent men no one has left a more stainless and none a more splendid name."

No longer hampered by the necessity of sacrificing accuracy of detail to mere rapidity in operating, nor deterred by the risk of death from sepsis, surgeons were able to intervene where before they could only look on. The art of surgery rapidly advanced, our knowledge of disease was greatly increased, and diagnosis by being more often put to the proof was rendered much more accurate. But this very advance, so far from justifying the Celsian dictum "quantum vero in vivis cognosci potest, ipsa curatio ostendat," demanded, as a condition of further progress, knowledge that can only be acquired by deliberate experiment on the living animal.

At the present time the surgeon is often obliged to operate with scant assurance of complete success. "We must often undertake things when the probability of succeeding is against us, and if we can do nothing better we must not on that account consider the undertaking impossible and unreasonable. Reasonable it will always be if we can do nothing better, and if we employ such sparse means as we may possess to the best advantage." So wrote a great military author. His words are equally applicable to the warfare against disease. It is not reasonable, however, and we are not employing the means at our disposal to the best advantage if we deliberately try upon man new procedures without first ascertaining their effect by experiments on animals. Celsus referred to human vivisection as if actually practised, or at all events not prohibited, by the legislature. He, however, stigmatised it as not only cruel but unnecessary, as abundant opportunity was afforded for the study of living organs by observation of gladiators in the arena, soldiers wounded in battle, and travellers who had received the attentions of brigands in the neighbourhood of Rome; but though these special means of investigation are not available for London workers the consensus of medical and lay opinion now, not less than in the days of Celsus, is rightly against deliberate experiment on man for the acquisition of knowledge. The study of the effects of disease as seen after death and in the course of surgical operations is a field already reaped and has come to form part of the curriculum of the student rather than the field of the investigator, though no one would say that important discoveries will not yet be made in this branch of inquiry.

Those who pursued the study of human anatomy even less than a century ago had to encounter physical danger as well as the prejudice and abuse which now falls to the share of those who seek to advance knowledge by experiments on living animals. Among those who are against us in this matter are many who honestly differ from us and whose opinions and conduct are entitled to our respect and consideration, but there is a small class of persons who display a lamentable want of truth and justice and

> "whose tongue
> Outvenoms all the worms of Nile."

Such may well be described in a phrase detached from a famous speech by Disraeli at the Guildhall as "gifted with an egotistical imagination that can at all times command an interminable and inconsistent series of arguments whereby to glorify themselves and to malign their opponents."

In all ages the search after truth, whether in science or theology, whether by translation of the Bible, by looking at the stars, by following the life-history of pathogenic bacteria in the living animal, or by making an antitoxic serum for the cure of disease, has met with irritated opposition and obstructive prejudice and its supporters have not always escaped calumny. I need not recall to you the invectives that have been applied to some of those most highly esteemed by our profession and by the public. Were Simpson at the present day engaged in chloroforming rabbits he would be subject to the criminal law of our country, and it is well known that Lister had to go to Toulouse to perform some important experiments, just as Galen had to send his students to Germany to dissect the bodies of enemies slain in battle because he was forbidden to obtain subjects in Rome.

Dr. Keen relates how "Sir Lauder Brunton began a series of experiments (on snake venom) in London but was stopped by the antivivisection laws in force. But Dr. Weir Mitchell and Dr. Reichert in Philadelphia undertook experiments on cobra and rattle-snake venom, the cobra poison being furnished, be it observed, by the British Government, whose own laws have prevented investigation for the benefit of its own subjects."

Where would the surgery of the intestines and stomach be without the labours of experimenters? How could the surgery of the nervous system have advanced without the experiments of Ferrier, Schäfer, Beevor and Horsley, Sherrington, Aldren Turner, Risien Russell, and many others? To experimental work on the living animal we are wholly, or in great part, indebted for what we already know about the pathology of bacterial infections, serum therapy, protective vaccines, cerebral localisation, the healing of wounds, the healing of nerves, and the healing of arteries, the transplantation of nerves, the surgery of the nervous system and of the gastro-intestinal tract, the effects of removal of organs, organo-therapy, the action of many important drugs, and the means of detecting certain poisons which defy chemical analysis. Fresh from a too brief visit to America I am glad of the opportunity of describing some splendid work which is in progress there by our colleagues in that great country. You will remember that Sir Lauder Brunton suggested long ago that the surgeon might be able to overcome the effects of mitral stenosis. In one of the splendid laboratories of the Johns Hopkins Hospital at Baltimore I saw the results of some ingenious and successful experiments on mitral stenosis and insufficiency and I do not doubt that in time these will be made useful for such diseases in man. Further, I saw a dog whose thoracic aorta had been successfully obstructed by Professor Halsted which suggests the possibility of dealing successfully with thoracic aneurysm. Thoracic aneurysms have never been able to be cured like aneurysms of the limbs, since Scarpa's law still holds good that for cure the artery must be obstructed at the site of the aneurysm. In all the experiments at Baltimore exactly the same precautions and care are taken as in operations performed on man.

At Cleveland I saw a wonderful experiment. Dr. Crile performed in a most beautiful manner the modern operation of anastomosis of arteries and by its means resuscitated a dog whose heart had ceased to beat for 25 minutes. Two dogs were chloroformed and one bled to death by opening the femoral artery. In both animals one common carotid artery was then exposed and divided, the distal end being ligatured and the proximal end clamped. An anastomosis between the proximal ends of the two vessels was now made. When the clamps were removed the blood flowed from the living dog towards the heart of the dead dog which almost at once recommenced to beat. Dr. Crile stated that as soon as the pressure in the coronary arteries reaches from 20 to 30 millimetres of mercury the heart begins to beat again. No leakage whatever took place from the anastomosis. This experiment gives a clue to a method of resuscitation from death by hæmorrhage in man. Dr. Crile also demonstrated an ingenious method of suture for gastro-intestinal anastomosis. The recent work on the anastomosis of arteries and veins led up to the transplantation of entire organs by Dr. Carel who successfully transplanted kidneys from one dog to another. How great are the possibilities opened up by these experimental demonstrations; may we not hope

for the time when diseased organs will be got rid of and replaced by healthy ones?

If these results are attained it is to be hoped that the problem of breeding the anthropoid apes in captivity may be solved, or we may see in a future number of the *Times* the advertisement attributed by an American humorist to the man who had destroyed his conscience: "Medical colleges and hospitals desiring assorted tramps for scientific purposes by the gross, cord measurement, or per ton will do well to inspect the lot in my cellars before deciding elsewhere."

At Buffalo I spent a day in the Government Cancer Research Laboratory. Here carcinoma is being studied by experimentally communicating it to mice, and several thousand successful inoculations have been made. A proportion of the animals so infected recovered without treatment, demonstrating experimentally what has been inferred from clinical observation—that spontaneous recovery from this disease is possible and that there are certain forces at work in the body antagonistic to the growth of cancer and tending to produce immunity. This has already led to the employment with some success of a vaccine and should serve as an incentive to research directed towards the preparation of a serum for the treatment of malignant disease. In my view it is futile to carry on experimental work on carcinoma unless the hypothesis that it is a microparasitic disease be accepted.

So far-reaching is the influence of experiment on the progress of treatment that no one of us can separate himself and say "physiological experiment has nothing to do with me." Till the functions of the living organs in health are clearly understood it is not possible for us fully to understand the changes that occur in the living organs in disease. The knowledge of living processes which is essential for the further progress of surgery and pathology can only be acquired by experiment on the living animal. It seems to us odd that the Romans who did not hesitate to sacrifice human life for their amusement should refuse the bodies of the dead for anatomical study. To a future generation it will seem equally strange that a certain class of Englishmen of the present day who do not hesitate to rear animals for the mere pleasure of the chase or the palate should consider it criminal to sacrifice animal life for the acquisition of knowledge essential to the relief and cure of disease. On this subject I cannot do better than quote the words used by J. F. D. Jones in his classical work on the Arteries published 100 years ago: "The author has," he writes in his preface, "only a few more words to say addressed to men out of the pale of his profession into whose hands this little book may fall whose opinions he esteems and whose sentiments he honours. He regrets the necessity of obtaining even this important knowledge by the sacrifice of brutes. But when we remember the incessant scourge of war which has followed man through all the ages of his history, not to mention the consequences of accident and disease, it is not too much to assert that thousands might have been, and may still be, saved by a perfect knowledge of these subjects, which can only be directly obtained by experiments on brutes; indirectly, and very slowly, by observations on the injured arteries of man; and even these cannot be made until he has fallen a sacrifice to the want of assistance or to the imperfect knowledge of the surgeon."

Those who are engaged in the study of physiology, pathology, therapeutics, and surgery on the living animal are, it is well for us to remember, following in the footsteps of Pasteur, of Lister, and of all those who have most contributed to the advance of medicine, and by whom "that ideal world wherein" the whole body of surgeons "had been dimly struggling, and inexpressibly languishing to work, became revealed and thrown open." The results of their labours are available for all. Every new fact is a gain, though its practical application may not be immediately apparent. The discovery of new knowledge is ever a laborious task, and those who seek this knowledge will always have the sympathy and support of our ancient society.

It might be thought needless before this audience to refer to the necessity of experiments on the living animal but, as Richelieu said, "The public occasionally blames what is most useful and even essential to its welfare;" so in the circumstances of the present time and in my official position I have felt impelled to take the opportunity of saying frankly what I hold to be true on this subject. I conclude with a beautiful passage from Sir Thomas Browne: "The wisdom of God receives small honour from those vulgar heads that rudely stare about, and with a gross rusticity admire His works. Those highly magnify Him, whose judicious inquiry into His acts, and deliberate research into His creatures, return the duty of a devout and learned admiration. Therefore,

> 'Search while thou wilt; and let thy reason go,
> To ransom Truth, e'en to the abyss below;
> Rally the scattered causes; and that line
> Which Nature twists be able to untwine.'"

An Address
ON
MEDICAL BOOKS.

Delivered before the Abernethian Society on Oct. 5th, 1906,

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MR. PRESIDENT AND GENTLEMEN,—It is a great pleasure to me to deliver an address to the Abernethian Society, of which I am, I think, one of the senior members and over which, when I was house physician, I had, like you, Sir, the honour of presiding. I was present when the society celebrated its centenary and I almost feel as if I had witnessed its commencement because I have spoken with six people who remembered hearing Abernethy himself lecture in this school. I remember when I was Warden of the college one October a father, a venerable clergyman, called upon me with his son who entered as a student. I asked the father, in the course of that general conversation which the Warden of the College always has with a parent, whether he knew the hospital or had ever seen it before. "Well," he said, "it is a long time since I have been here but I was here once when I was an undergraduate at Cambridge and happened to come up to London. Someone brought me to hear Mr. Abernethy lecture and he was lecturing on the body of Thurtell, the murderer." Thurtell, you will remember, was the man who committed in 1823 a particularly atrocious murder which excited great attention at the time but would perhaps be now forgotten but for a ballad which Horne Tooke wrote upon it, which described the victim and the way in which he was killed.

> "They cut his throat from ear to ear,
> His brains they battered in.
> His name was Mr. William Weare,
> He dwelt in Lyons Inn."

It was the custom at that time to give certain bodies of criminals for dissection, and thus the clergyman with whom I talked had come to hear Abernethy lecture on the body of Thurtell. Having talked with some of Abernethy's auditors I feel that I am almost in touch with the very commencement and with the patron saint, as I may say, of this society, the person in whose honour it was originally founded. And therefore it gives me especial pleasure to take any part in its proceedings. All the papers which are read here have some relation or other to the work of this place, the work in which we are all engaged. Our work may be divided very well into three separate parts or stages. First of all we spend a great deal of time in acquiring knowledge to make us competent to observe. Next we spend more time—a great part of our lives, those of us who stay here—in carrying out observations in the wards. And as we come out of the wards each day and throughout our lives, the third part of our work begins; we endeavour to interpret for the benefit of the patient and for the benefit of the world at large the observations which we have made in the wards. Books are one of the aids which we have in directing our thoughts upon the observations which we have made in the wards. The uses of reading are that it enables us to compare the observations of others with our own and that it helps us while following their thoughts and arguments to set our own minds thinking systematically on what we have seen. The latter is perhaps more important and it is therefore better to read a few books often than many books superficially. There was a time when people thought that you could learn medicine by reading books. I have now and then met with students who had an idea that at any rate the greater part

of medicine could be acquired from a book. That was an idea which was very prevalent in the Middle Ages. Of course, those of us who have worked earnestly and steadily at the subject know that you cannot learn it in that way, but books are nevertheless most important aids in our study of medicine.

I propose to speak to-night on the subject of medical books and I want to do so, first of all, not in the spirit of trying to tell you what you should read and what you should not read—not in the least in the spirit of direction. I only wish to encourage you to read—that is to say, to encourage you to make some use of books as a means of enabling your minds to work better in the study of medicine. There is a famous passage, which I will read to you, in one of Macaulay's essays, on the subject of reading. It is in the essay on Bacon, where he speaks of the feeling which a man of liberal education naturally entertains towards the great minds of former ages. He speaks of their writings and says: "These are the old friends who are never seen with new faces, who are the same in wealth and in poverty, in glory and in obscurity. With the dead there is no rivalry. In the dead there is no change. Plato is never sullen. Cervantes is never petulant. Demosthenes never comes unseasonably. Dante never stays too long. No difference of political opinion can alienate Cicero. No heresy can excite the horror of Bossuet." There is another passage in English literature of the same purport which I am sure Macaulay had often read. It is in the writings of Bishop Hall of Norwich [1] who lived in the seventeenth century: "What a heaven lives a scholar in, that at once and in one close room can daily converse with all the glorious martyrs and fathers! that can single out at pleasure, either sententious Tertullian, or grave Cyprian, or resolute Hierome, or flowing Chrysostome, or divine Ambrose, or devout Bernard, or (who alone is all these) heavenly Augustine, and talk with them and hear their wise and holy counsels, verdicts, and resolutions." That passage, you see, has the same idea as Macaulay's. No doubt he had often read it, although it would be wrong for a moment to think that his own splendid passage was a plagiarism from it. He wrote in the enthusiasm which he always felt for great books. It is in this spirit of admiration and gratitude that I wish to deal with the subject of medical books. Everyone, as he reads books, comes to find that he has certain definite friends among them and those friends we often are attached to for very varying reasons. All of us, in our circle of friends, know men who are not possessed of the most extraordinary abilities, who do not achieve the most wonderful success, but who nevertheless we are deeply attached to. We are attached to them, perhaps, for some particular quality and sometimes even for less than that, because they are in some way associated with some incident or part of our lives which is dear to us. It is in this way of friendship that I want to approach medical books this evening. So you must not expect that I am going to give you either logarithmic tables for the extraction of results from the innumerable volumes of transactions, periodicals, systems, and dissertations, or a list of the 100 best books of medicine. I am only going to tell you of a few of my own friends, in the hope, perhaps, of inducing you—probably many of you have already done so—to form your friends among the thousands of volumes which are to be found in medical libraries. And therefore I shall not make any apology for beginning with a question which otherwise you might think of very little use—that is to say, if we were looking on the matter in another way. I shall begin by asking you, What is the first book in any way related to the study of medicine which was known by anyone in England? Who was the first author containing a medical passage to be thought of in this country? One always likes to know the beginnings of things if possible, and somewhat in that spirit I ask this question. There can be no doubt about the answer. It is quite certain that the first author who has any passage referring to medicine and the reading of whom we can in any way trace to this island, was the Roman poet Lucretius. This takes us back to the time of the first connexion of Britain with the civilised world, the time of its invasion by Cæsar. Cæsar had in his army Quintus Cicero, the brother of the orator, and himself an equal lover of books with Marcus Tullius Cicero. Quintus Cicero, having heard of the death of Lucretius, wrote, in a letter the text of which has survived to this day, to his brother in Rome, asking what had become of the literary remains of Lucretius. And Cicero, the orator, wrote an answer back, saying what the writings were. Lucretius was born about the year 104 B.C., and was not an old man when he died. He was of a philosophic turn of mind and had read a great deal; and, as many of you know, he wrote a great poem, which is a complete recital and defence of the Epicurean philosophy. Lucretius had read something of the medicine of his own time and there is a famous passage, which I will not read to you, it has so often been quoted, describing a patient in an epileptic fit. It is a most accurate description of the way in which the patient falls to the ground absolutely unconscious, has tonic and clonic spasms, as we say, foams at the mouth, and then gradually recovers. Lucretius is an author about whom there is a kind of romance in the periods at which he has been read. His poem was studied after his death in the great age of Roman literature. Then in later centuries scarcely a trace of his works is to be found. He is just mentioned in a small passage which St. Jerome quotes from the Roman historian Suetonius. Hardly any other mention occurs of Lucretius in the literature of the Middle Ages. Virgil and Horace and Ovid were as well known to the mediæval writers as to us but Lucretius was simply a name.

In the year 1414, when a General Council was sitting at Constance, there came as secretary to the Pope a very learned Italian who was extremely fond of libraries and books, Poggio Bracciolini. While the council was sitting he spent his spare time in wandering here and there looking for books, and in one of these expeditions in some library, probably in Southern Germany, we do not know which it was, Poggio discovered the manuscript of the poem of Lucretius. He knew what it was and he was delighted with it. He had not time to work at it then but he sent it on to a friend of his, Nicolò Niccoli, in Florence, to read. Poggio's letters are preserved and after about twelve years he wrote to Niccoli saying: "You have already had my manuscript for twelve years." Niccoli no doubt felt, "It is quite true and it is worth keeping that time and much longer, I have been studying it ever since." And Poggio wrote again after fourteen years, for Niccoli still had it. At last, however, he restored it to Poggio, but before he did so he had made a complete copy of it, and till the present day that original manuscript, discovered during the Council of Constance, about the time of our battle of Agincourt, has been lost. No one knows where it is and one of our chief authorities for the text of Lucretius is the copy which Nicolò Niccoli made of the manuscript which Poggio had lent him, a most faithful and valuable copy, as is shown by its agreement with a manuscript of the ninth century, which has since been found and is now at Leyden. Poggio's discovery, you see, was a little before the invention of printing but in the same century. Lucretius was first printed in 1473. It was the time of the revival of classical learning and his poem excited the most extraordinary admiration. It deserved admiration for its beautiful clearness and there is a peculiar charm about its metre, which has much alliteration and assonance, and produces in Latin something of the entrancing effect which Spenser has in English; the earnestness of the writer is also very striking. At the Renaissance everyone thought it right to be acquainted with Lucretius and from that time to this day his poem has attracted the attention of scholars. I can remember, as an undergraduate at Cambridge, often seeing Mr. Munro, the most celebrated English editor of Lucretius, walking across the great court at Trinity and always venerating him as one of the most learned scholars in the University. The history of the poem of Lucretius is like that of some famous diamond, once refulgent in a crown, then lost in the dust for ages, and then discovered and brought out to shine with brighter radiance than before. It is interesting that this poet, the history of whose works is so romantic, should be the very first author mentioned in our island whose works contain any medical passage. Let us leave this wonderful Pagan and come down to Christian times.

The next writer on medicine about whom I wish to speak is mentioned by the first great English author, the Venerable Bede. Bede wrote, you will remember, the great history which is our chief authority for the earliest deeds of the English nation. Those of you who are Cambridge men will remember the copy of his history in the show case in the University library. That manuscript was written before his death and in the library of Trinity College

[1] Epistle to Mr. Milward

there is a manuscript of St. Paul's epistles in the actual handwriting of Bede. When Bede approached the end of his life he was still at work. He felt that he could not live much longer but he wished to conclude some works which he had in hand. One of these was a series of extracts and translations into the Anglo-Saxon language of that time of the writings of Isidore, Bishop of Seville. Here is one of the works of Isidore—the "Liber Etymologiarum"—and I show you the part which refers to medicine. Bede had not quite finished what he had to write. Cuthbert, afterwards abbot of the monastery of Jarrow, who was present at his death, relates that he had weakness and dyspnœa from two weeks before Easter and that he died on Ascension Day, 735, the dyspnœa having increased and swelling of the feet having appeared. He remained conscious to the end. Emphysema and a dilated heart explain his death. His scribe, a few hours before he died, said to him, "One passage remains incomplete but it is difficult to ask you to do any more." But Bede said: "Facile est accipe tuum calamum et tempera festinanterque scribe." And a little later the scribe, whose name was Uuilberche, said: "Dear master, one sentence is still unwritten." "Well," said Bede, "write," and he dictated it. And soon after it was written he felt he was actually dying and a little later he did indeed die. Thus it seems likely that an Anglo-Saxon translation of a passage of Isidore was the very last work of Bede. This Isidore was Bishop of Seville in Spain in the year 601. What he has to say on the subject of medicine is contained in 13 chapters. The first defines its nature: "Medicine it is which preserves or restores the health of the body, it deals with diseases and wounds"—very simple and straightforward. The next chapters discuss its name, its originators, its various hypotheses, and the fourth chapter defines the humours of the body. Chapter VI. describes the acute diseases; those which swiftly pass off or soon kill. He gives as examples of acute disease pleurisy and frenzy, and as examples of chronic disease, gout and phthisis. He goes on to define fever, frenzy, palpitation of the heart, and cynanche. "Pleurisy," he says, "is an acute pain in the side with blood-stained sputum," a most interesting remark, because it shows that many of his cases of pleurisy were certainly cases of pneumonia. "Pneumonia (peripleumonia) is a disease of the lung with pain and shortness of breath." Apoplexy, spasm, tetanus—which he defines as a contraction of the tendons from the root of the neck to the back; a stroke, hydrophobia, carbuncle, and plague are the other acute diseases which Isidore mentions. In Chapter VII. he treats of chronic diseases, a most curious collection—gout, headache, scothomia, vertigo, epilepsy, mania, melancholia, typhus (which was a term not used in the specific sense in which we use it but a very general term for any febrile condition in which the mind was obscured), reuma, catarrh, choryza, branchos, raucedo, dyspnœa, peripleumonia, phthisis, cough, abscess, empyema, hepatitis, lienitis, dropsy, nephritis, paralysis, cachexia, atrophy, sarcoma, ischiasis, stone, strangury, satyriasis, diarrhœa, dysentery, colic, ragates. The eighth chapter is about diseases of the surface of the body—baldness, mumps, scabs, elephantiasis, jaundice, and cancer (on which latter he had already made the truthful observation, "Not curable by any drugs"), furunculosis, ulcer, pustule, papule, and cicatrix. A chapter of remedies comes next. He encourages their use by saying that Isaiah prescribed them to Ezekiel when ill and that Paul advised wine to Timothy. The tenth chapter seems at first to be on the subject of this lecture, medical books, but is found to deal not with authors but with the kinds of composition, "aphorism is a statement writing tersely the matter proposed—prognostic is the prevision of diseases—a physician ought to recall the past and know the present and foresee the future." The chapter is very short. The eleventh chapter is on instruments, the twelfth is on ointments, and the last is on the study of medicine and the desirability of a comprehensive knowledge in it.

This short summary gives you an idea of what was the medical knowledge of Isidore and it is worth considering because the "Liber Etymologiarum" was a book which for a great many hundred years was regarded as a treatise which everyone might study with advantage, and it was to be found in every library. There is no author of that period of whom you find in the old libraries more manuscripts. Some time ago I had to go to the town of Aix in Provence and when I had done the professional business which took me there I went to see the library and I noticed that they had some manuscripts. The librarian, a very intelligent man, came to me and said: "Are there any manuscripts you want to see?" I said, "Yes; I should like to see any manuscripts that you have of the 'Liber Etymologiarum' of Isidore of Seville." He immediately produced two fine manuscripts for me. I looked into the book of Mr. Montague James, the provost of King's College, a most extraordinarily learned man, who has published a great number of catalogues of the mediæval libraries of England, and in nearly every one of those you will find one or more copies of Isidore. So it was one of the most accessible and one of the most often read books of the time. And I ask you to consider for a moment what the period was. If you look in catalogues in the British Museum or elsewhere you will generally find that the last of the classical writers is considered to be Boethius, who wrote a well-known book of which there are innumerable manuscripts and many printed editions too—"De Consolatione Philosophiæ"—a book which was said to have been translated by King Alfred. Boethius died between 530 and 540 and that was considered to be the end of the period of classical learning. Isidore, you will remember, became Bishop of Seville in the year 601, so that he represents the knowledge of medicine as it existed or was prevalent in Europe after the obscuration of the learning, or the greater part of the learning, of Greece and Rome and before any modern learning had arisen. Think for a moment of the relation of this book to us here in England. It was written in the year 601. That seems a very remote time and yet in my practice as a physician I have twice actually been brought in contact with that period. I will explain to you how. 601 was the year when first the Bishop of London appears in history. At that time the King of Kent, as you know, was Ethelbert. But Ethelbert's sway was not confined to the county of Kent; it extended into the country now known as Essex and even to the south bank of the Humber. He was a very powerful king and he gave to the Bishop of London a piece of land in Essex, Tillingham, near the mouth of the Thames; there is a decoy for wild fowl there at the present day. It continues in the possession of the Dean and Chapter of St. Paul's. When, in the last century, the Ecclesiastical Commission, which manages such a large part of the ecclesiastical estates in England, was established, the Cathedrals, if they liked, gave up their land to the Commission and received the certainty of a definite income, at the same time parting with the management of the land. If they desired they could keep the land and it was managed in certain other ways. The Dean and Chapter of St. Paul's gave up their land with the exception of this one estate at Tillingham. They said that, having been given to St. Paul's in the time of King Ethelbert, it was almost the oldest transmitted estate in the United Kingdom. No doubt it was the oldest; it was, indeed, older than the throne of England. And the way in which I have been brought into contact with the period of Isidore and that of King Ethelbert is this: on two occasions I was consulted by a Dean of St. Paul's as to whether it was prudent, in his state of health, for him to pay a winter visitation to Tillingham, which had been the custom of the Dean from time immemorial. So curiously, you see, is the history of the past joined on to the history of the present. And I, who began by pretending to extend my personal knowledge to 100 years, must now extend my years of contact with the past to 13 centuries. Isidore was Bishop of Seville in Spain, and when you go to Spain and travel through the country and look for any traces of what was going on in his time you will find that they are very few indeed. When I visited Spain on the last occasion I looked out to see what traces of any kind there were of that period. There were hardly any. In Granada, in the market place, on the stalls where they sold old metal, there were a few small copper coins of the Gothic kings of Spain, little heaps of them, I suppose dug up in the neighbourhood, and that was all. In the cathedral of Toledo there is a chapel where a peculiar rite, which was the original Gothic rite in Spain, is still carried out on certain days in the year. But those two traces were almost the only ones relating to the time of the Goths and of Bishop Isidore which I observed in Spain.

Now, why was there so little trace of those times? In that very city of Toledo itself there is a small church in a little narrow street in which when you enter you seem to be transported to Algiers or to some place further east. It

looks like a mosque, it has those peculiar horseshoe-shaped arches which are to be seen in Mohammedan buildings. The shield of King Alonso, who turned it into a Christian church, hangs up in it. It was, of course, originally a mosque. And of course the reason there are so few prominent traces of the Goths is that the Arabs conquered Spain and became the chief civilised power in it. Those Arabs themselves had an immense force in relation to the study of medicine. Isidore, you see, wrote the sort of residuum which remained after all the classical books had for the time been lost, or at all events had ceased to be read, when you could not buy anywhere a copy of Hippocrates, when it was not possible to get a manuscript of Galen. They were not absolutely destroyed but they were so rare and so hidden that they were practically of no use. The Arabs found many of them in the Greek cities of the countries which they overran and they acquired the knowledge which was in them and when they came to Spain they brought with them considerable knowledge of medicine which really was acquired from the great Greek writers on the subjects. And so I have always regretted that I was never taught Arabic and for that reason have never been able to read any of these authors in the original. But most of them have been translated into, at all events, Latin and I should like to read to you or tell you of one little passage from a Persian book, the "Chahar Magála," which is edited by a distinguished student of this hospital—Professor Edward Granville Browne, professor of Arabic at Cambridge. And while I mention Professor Browne's name I cannot help pointing out to you the remarkable fact that two students of this hospital, two who were members at one time of this society, are each of them distinguished authorities on oriental literature at our ancient universities. Professor Browne is professor of Arabic and has also lectured on Persian in the University of Cambridge, and Dr. George Ranking lectures on Persian in the University of Oxford. So it is not inappropriate to speak to the Abernethian Society, which includes such distinguished oriental scholars, a little about the Arabs in the domain of medicine.

One of the Arab writers who had most influence is generally known in this country as Rhasis, because his part of the country was known as Ray. He was Muhammad, the son of Zakaryya. Soon after I became a student here, having constantly met with his name, I felt anxious to acquire some knowledge of his works. His chief work is a very large treatise on medicine called "The Continent." So I went to the British Museum and looked in the catalogue, and there I found a great variety of titles under his name but always with an Arabic sentence following the title. So I asked one of the men in the middle of the room, who generally know everything about the catalogue as well as much else, whether that Arabic sentence meant that those books were printed in Arabic, because if they were I saw no chance of improving my knowledge in this respect. "Yes," he said, "I think they are all in Arabic." I thought, however, that the books might have some notes in some other language, Latin or perhaps English, and so I wrote down the titles of all the works of Muhammad ibn Zakaryya called Ar Razi and they were very numerous. I carefully wrote every one down and gave in the tickets and retired to my seat. Presently the books began to come—the size of some was enormous. The word "Continent" is applied to the book because it is supposed to contain everything. More and more of them came; I decided not to look at any until all should have arrived. At last they had all arrived and I began to look at them. Not one of them in Arabic. The writing in Arabic on the title was merely a display of learning on the part of the catalogue maker. They were either in Latin or translated from that into various European languages. That was my first acquaintance with Rhasis. I may now mention what happened afterwards because it filled me with remorse. One day a man came here when I was house physician and said, "Do you think you could get a man into the hospital who is very ill and who has been in the British Museum? You know him because he is the man who brought you some time ago all the works of Rhasis." The poor man was taken into the hospital. He had a fatal illness, but I can honestly assure you that the etiology of the illness was not to be found in carrying the works of Rhasis; it was due to quite a different cause. So I did all in my power to relieve and to cheer him but I felt that my conscience was relieved and that I had not killed him.

Ar Razi was living in the city of Merv and he was sent for by the ruler of Bokhara. At first he declined to go. They sent to him a second time. And then he said to the messenger, "Here is a treatise on medicine"—it was not the Continent but a smaller one—"which I have written. Take it to the Amir of Bokhara and tell him it is the same as myself, because it contains all that I know." But that did not satisfy the Amir and he sent again a third time, and the orders were that Muhammad was to be bound and brought across the river Oxus, whether he wished it or not. And he was. And when he came to see the Amir the Amir was suffering from some form of arthritis, probably a septic arthritis. And Ar Razi said he must give him a hot bath and that no one else must be present and that he would like to have brought to the door of the bath the Amir's best horse and his best mule, properly saddled and ready to ride, as he might need them for a particular purpose connected with the cure. All the court were sent away and the poor ruler of Bokhara, who had been unable to walk, crippled by arthritis, was carried there by Ar Razi and his servant, and taken into the bath. And he had this hot bath and stayed in it for a long time and Ar Razi in the place with him. And then Ar Razi went out and dressed himself and came back with a long knife in his hand and said, "Now I am going to murder you for having sent to me so often and having me bound and brought across the Oxus." At this the Amir of Bokhara was furious and at last he jumped up and ran about and rushed towards Ar Razi, and Ar Razi, as it were, fled from him out of the door and mounted his horse and his servant mounted the mule. Before long they reached the river Oxus and crossed it. The ruler of Bokhara stayed in the bath for some time longer, but finding that nobody came he at last dressed and walked back to his palace and so overcame the arthritis which before had prevented him moving at all. He recovered. In a few weeks the horse and mule were honestly sent back by Ar Razi with a letter, and the ruler wrote a letter in reply asking him why he had behaved in that way and Ar Razi said, "Surely you can now see that that was the only possible method of curing you; nothing but extreme rage would have induced you to extend those nearly ankylosed joints and without that you could not get over the dreadful condition of chronic rheumatism in which you were." The Amir wrote him a polite letter and sent him 2000 dinars and 200 loads of corn and settled an estate upon him.

That mention of the estate reminded me of a passage in Bentley's famous "Dissertation on the Epistles of Phalaris." Phalaris was a tyrant in Sicily who was supposed to write these epistles. They were written in a much later age, yet were published as genuine by Mr. Boyle of the University of Oxford, and in the course of his introduction he made some very uncivil remarks about Dr. Bentley, who was then keeper of the Royal library at St. James's and afterwards became Master of Trinity at Cambridge. Bentley showed that the Epistles of Phalaris were of late composition. In the epistles Phalaris is made to reward a physician who had cured him of a dangerous illness. The reward was four goblets of gold, two silver bowls of ancient workmanship, ten couple of Thericlean cups, 20 slaves, 50,000 Attic drachms, and an annuity equal to that of the High Admiral of Phalaris, a story, says Bentley, credible enough if a Sophist was the giver but not if Phalaris in ancient Sicily had to make the present. And he goes on to explain what the rates of payment in Sicily were at that time; and in the course of his argument he shows the scarcity of gold and adds that there are mentions of fees paid to physicians but they were not very large. He ends by quoting the Greek verses of Crates, the cynic, which are preserved by Diogenes Laertius. They purport to give an extract from the account book of a wealthy man. He paid to his cook £30 and to his physician 9½*d.*, while to his flatterer he paid £900. Bentley concludes that statements about fees paid to physicians are to be accepted with hesitation in ancient writers. Perhaps the same applies to the fees of Amirs of Bokhara.

As I have mentioned Bentley I cannot help also referring to one book which, although it is not a treatise on medicine, is a treatise on the sciences connected with medicine and that is the "Reflections upon Ancient and Modern Learning" of William Wotton, published in 1694. William Wotton was a member of my own college at Cambridge and in that book you will find a better account of the anatomy, physiology, chemistry, and the physics of the reign of King William III. and the time of Richard Bentley and Sir Isaac Newton than in any other book. It is

most admirably and clearly written. Wotton himself was a very extraordinary person. In the university library at Cambridge there is a small manuscript note about his education, written at the time and well attested. At the age of four years and six weeks he could read a psalm; at five years he could read St. John's Gospel in Latin and Greek. Before he was six he could read the first psalm in Hebrew, Homer and Virgil, and Terence. Sir Thomas Browne, the famous physician of Norwich, heard him between six and seven years of age recite Spenser in English, translate a piece of Virgil, translate some of Homer, and the first verse of the fourth chapter of Genesis from the Hebrew. He entered at St. Catharine's College before the age of ten and he took his degree before he was 14. He died at the age of 60 and a remarkable point about him, and an interesting one to us as observers of the growth of children, is that he was throughout his life the friend of most of the learned and eminent people in literature and science of the time and that nearly all his writings—and they are rather voluminous—have the same merits as that dissertation on ancient and modern learning. There is in them all the same character of extreme precision, extended learning, and perfect clearness. One is sometimes inclined to believe that the infant prodigy never turns out well. But this is rather a striking example to the contrary.

There is one other Arabian whom I should like to mention, because he is so constantly quoted. He is called Avicenna. Professor Browne has published several interesting cases from Avicenna. The cases given by Arabian physicians often illustrate the importance of considering the relations of the feelings and the mind to the body. Avicenna was sent for to see some prince in the northern parts of India who had been lying ill, for which illness nobody seemed able to find the cause. And Avicenna thought it very likely that the cause was that the prince was in love with some lady in a distant place and was prevented from communicating with her. And so Avicenna turned the conversation to different countries of Asia, and, finally, some State was mentioned, and he noticed at the same time a distinct change in the young prince's pulse. And then he asked whether there was anyone who could repeat the names of the chief towns of this State. Someone came and repeated the names, and he noticed again a change in the pulse. "Is there anyone who can repeat the names of the streets in that town?" And in that way he found out the very street. And he turned to the prince's father and said, "There is no doubt the cause of the illness and depression is that there is an interference with affection." The lady was found and they were married and the prince recovered completely.

I remember, when I was a student of medicine here, coming across in a manuscript (Additional 15,403 Brit. Mus.) a sentence of Avicenna recommending the use of caraway in fever, thereby suggesting an experience such as that stated in the recent lectures of Dr. F. F. Caiger at the Royal College of Physicians of London. Dr. Caiger thinks that oil of cinnamon is a soothing remedy in enteric fever, and Avicenna says: "Cum caravi carui nunquam sine febre fui." That is a line which looks simple enough but "caravi" is not to be found in the Latin dictionary. It long remained to me uninterpreted. It is fixed in my mind because, going to see that distinguished scholar, Professor Robertson Smith, a Fellow of Christ's College and once professor of Arabic at Cambridge, within a few weeks of his death, when he was very ill in bed, I mentioned this line, and Professor Robertson Smith at once brightened up and said, "Go into my next room and bring me such and such a book." I brought it in and he said, "Go and bring another." And I brought another, until finally the whole of the lower part of the bed was covered with great books, chiefly in Arabic, and from these he demonstrated what the meaning of the word *caravi* was. It was a Latin form of the Arabic word for caraway seeds. So what Avicenna said was, "When I had no caraway seeds I was never without fever." Avicenna will always be connected in my mind with Robertson Smith. The latter came from Aberdeen, entirely foreign to the University of Cambridge, but before he had been there a year he became as distinctly a part of Cambridge as if he had been bred there, and continued so to the end of his life, delighting everyone by his vast learning and interesting conversation.

There is one little book on the table which I cannot avoid mentioning because it is the very first book on medicine which I ever read. It is called "The Flower of Medicine" or more often "Regimen Sanitatis Salerni"; it contains the doctrines on regimen and treatment of the school of Salernum in Southern Italy. It is a series of Latin verses on the art of preserving health, on diet, on pharmacology, and in its first line a King of England is addressed:[2] "Anglorum regi scribit schola tota Salerni." The lines say, if you wish to be healthy, if you wish to remain well, avoid serious care, believe it wrong to be angry, spare wine, eat little supper, rise at once from table after meals, and flee midday sleep. These, if you will follow, you will live for a long time. The book every now and then breaks out with an enthusiasm which I have never met with in any other work on materia medica, though now and then you find it expressed by a man who has taken to prescribing some particular drug for this disease or that—

> "Cur moriatur homo cui salvia crescit in horto?
> Contra vim mortis non est medicamen in hortis.
> Salvia confortat nervos manuumque tremorem
> Tollit, et ejus ope febris acuta fugit.
> Salvia salvatrix, naturæ consiliatrix
> Salvia dat sanum caput, et facit hoc adrianum."

"Why should a man die who grows sage in his garden! Only because against the force of death there is no drug to be found in gardens. Sage soothes the nerves and checks tremor of the hands and reduces the temperature in ague. Sage, the remedy for most things, the consoler of Nature, cures headache and so does the preparation adrianum." Borage is scarcely less praised. "O borrago bona, tam dulcia sunt tua dona"; and nuts as heartily denounced, "Unica nux prodest, nocet altera, tertia mors est." This book and the writings of Isidore and some of these Arabs such as Avicenna certainly were the day stars and guides of medicine in this hospital for the first century of its existence.

The revival of learning came, men had once more the opportunity of studying Greek literature, and that introduced them to all the greatest works of the human mind which had then appeared in the world and showed them that the true way to proceed in medicine and in every science was that of the observation of nature. The beginning of the revival of learning really consisted in learning Greek and in reading these great Greek books. This went on for a considerable time, and I always look with a certain amount of respect on that little book of the aphorisms in verse, which was written by the regius professor of medicine at Cambridge, who died in the year 1636—that is to say, in the reign of King Charles I.—and which may be regarded as the end of that part of the revival of learning, the end of the mere study of Greek. Ralph Winterton translated the aphorisms of Hippocrates, books of short sentences, in which Hippocrates sums up the conclusions of his medical and therapeutic observations. He translated all of them, first into Greek and then into Latin verses, and of all the books written by the regius professors of medicine at Cambridge, this is the one which has received the most distinguished praise. It has prefixed to it verses by members of every college but one of Cambridge, by the heads of several of the colleges, by most of the then University professors, by the chief learned men of the University of Oxford, and by nearly all the chief Fellows of the College of Physicians. Among the colleges no member of St. Catharine's praised it and among physicians Harvey was peculiar in not writing in its favour, but notwithstanding these exceptions such a chorus of praise as it received has never since greeted any single book of a professor of medicine. I view it with interest—and I look into it every now and then—as the final end of that part of the Revival of learning which consisted in the study of Greek.

From studying Greek people came to see how the Greeks observed and very great men of observation came upon the scene. Prominent among these Gilbert. Although his writings are not medical we must venerate him as the person who discovered the magnetism of the earth. Harvey and Glisson came after him. These were the great men who showed not only that Greek had been learnt but that the lesson of the Greek writers had been learnt, and that that learning was really a revival of science. And it is to these physicians and not to Bacon that the true method of science in Europe is due. Bacon was known in the world of letters, and he has often been praised as if he was the first person to teach that the true method of science was to observe nature and so to draw conclusions. But that is not so. If it was due to any one set of men it was, in

[2] Some manuscripts begin, "Francorum regi," and are said by commentators to refer to Charlemagne. These have a different text from the more numerous MSS. addressed to "Anglorum regi."

England certainly, due to these great Fellows of the College of Physicians.

I have already lectured long enough, and you will see I have upon the table a great many other books. Here is Wepfer's "Treatise on Apoplexy," which when once you have read you will be sure to read often. It is delightful from the way in which each observation reveals a little more truth to him till a great addition to knowledge is established. Here is Nicholas Tulpius, whose portrait giving an anatomy lesson was painted by Rembrandt. He was the first person to give a drawing of fibrinous bronchitis and one of the first to describe beri-beri. Here are the volumes of Morgagni, and there is the Sepulchretum of Bonetus. They hit upon the plan of collecting large numbers of cases of morbid anatomy and putting them side by side with clinical notes, and so was founded the modern method of the study of morbid anatomy. Here is Dr. Freind's "History of Physic from Galen to the Revival of Learning"; it is the best history of physic in English. Freind was a great physician and was sent to the Tower because it was supposed he was concerned in a plot to bring in the House of Stuart in the reign of George I. His imprisonment had this beneficial result, that it gave him the leisure in which to write this book which he had long had in his mind. It is one of those books which satisfies you whenever you read it. He makes the contents of the writers of that period delightfully clear. Here is the treatise of Dr. James Douglas on all the writers of anatomy, "Bibliographiæ Anatomicæ Specimen," a small shabby-looking book now, but which you will never consult in vain. He has read every book which he mentions and gives a most precise account of each writer. Here are the two authors which I remember devoting most time to when I was reading for my bachelor of medicine degree, the lectures on medicine of Sir Thomas Watson and the treatise on medicine by Dr. Felix von Niemeyer. They are both excellent books, both now obsolete in many parts as you will see from this extract: "Mr. Paget" (that is Sir James Paget) "states his belief that there are no signs, microscopic or other, by which degenerate lymph or pus can be with certainty distinguished from ordinary tuberculous matter." Niemeyer was an excellent physician of the most precise method, who always begins by describing first hypertrophy of an organ and then atrophy of it, and so continues all through the body, and divides all kinds of inflammation into catarrhal, and croupous, and diphtheritic. I feel deeply grateful to those text-books. Watson is written in the most admirable style, and contains many passages which will always remain worth reading in English medicine. Niemeyer contains amidst the drier collection of facts several touches of humour, such as the mention of the wife of a Prussian general who held that the whooping of whooping-cough was voluntary, and said if children were whipped sufficiently they did not whoop much. And the other remark of Niemeyer himself as to the difficulties of determining the causes of alopecia, in which he says that people declare alopecia is due to excessive learning or to extreme dissipation, according as they take a favourable or unfavourable view of human nature.

These are a few of the books which at different times have given me pleasure or to which I feel grateful. But, of course, books which please one man do not necessarily please another; every man must choose his own; and you will find it a useful training of your minds in the practice of medicine to make some friends, permanent and long-lasting friends, among medical writers.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—The annual general meeting of the Royal Academy of Medicine in Ireland took place at the Royal College of Physicians of Ireland on Oct. 12th, when Dr. J. Magee Finny was elected President in succession to Sir Thornley Stoker.

UNIVERSITY OF OXFORD.—Degree days for the ensuing term are announced as follows: Thursday, Nov. 8th, at 10 A.M.; Thursday, Nov. 29th, at 10 A.M.; and Thursday, Dec. 6th, at 10 A.M.—Scholarships in natural science are offered for competition as follows: Dec. 4th, Balliol College, Christ Church, and Trinity College; Dec. 11th, University, Lincoln, and Magdalen Colleges; and Jan. 15th, 1907, Jesus College.

SOME OBSERVATIONS ON ENLARGED VEINS IN CHILDREN.[1]

BY ALEXANDER G. GIBSON, M.A., B.M. OXON., M.R.C.P. LOND.

1. *Introductory.*—A large number of children attending the out-patient department of a hospital suffer from general debility, wasting and listlessness. A cursory examination of such cases reveals nothing abnormal but more careful observation in many cases shows a ramification of small venules on the chest and elsewhere. Many of those in whom venules are easily seen also show a certain degree of prominence of one or both jugular veins.

2. *Conditions of the veins in these cases.*—The venules seen on the chest are small ramifications flush with the surface of the skin; in front they tend to converge towards the upper part of the sternum but behind they usually show a stellate arrangement. In some of the most marked cases large veins can be seen as far out as the deltoid region. As a rule no veins are seen below the chest but I have seen cases in which there was no abdominal disease showing such venules about the groin. The jugulars can almost always be seen either as blue streaks or distinctly dilated; one or both sides may be affected. Veins can frequently be seen also under the chin, at the temples, and very occasionally on the forehead. A normal adult from a number of causes may present a full jugular vein, but in very few children with no suspicion of disease is such a condition seen. In adults a large jugular vein is always emptied during inspiration, a fact which can most readily be verified by watching the neck of a person breathing deeply under ether; but in children who have large jugular veins together with venules on the chest a deep inspiration produces only a slight collapse, if any, of the veins; this is true of the upright as well as the recumbent position. Records have been kept of 14 cases showing visible venules together with dilated jugulars which behave abnormally on respiration. The descriptions are in some details incomplete, taken as they were in the hurry of hospital practice and many points were noted in the later cases which were omitted from the earlier.

3. *Description of cases.*—CASE 1.—The patient, a boy, aged eight years, was taken to hospital because of wasting and a "dry" cough in the morning. There were enlarged veins in both supraclavicular fossæ which did not completely or quickly collapse on inspiration. The chest was fairly well formed and measured 11¾ inches on the right side and 11½ inches on the left. The note was very slightly duller on the right side than on the left in front and behind. The breath sounds were normal and equal in intensity; there were no adventitious sounds. As regards the heart, a systolic murmur was heard at the apex not traceable outwards but heard up the sternum to the second right costal cartilage; it was not altered on retraction of the head. The abdomen was normal. No superficial enlarged glands.

CASE 2.—The patient, a female, aged eight years, had always been a delicate child. Her appetite was bad, she vomited occasionally, and had been getting thinner lately. She suffered from a cough of a somewhat paroxysmal nature, bringing up a very small amount of phlegm. She occasionally had some pain over the præcordium. The bowels were regular. A few prominent venules were seen on the chest, the jugulars were large and did not collapse completely on inspiration, the temporal veins were easily visible, and the capillaries of the face were dilated on the cheeks. There were no veins on the abdomen. The hair on the skin was not markedly long. The chest signs were not abnormal; a retraction murmur (systolic) was present over the upper part of the sternum. A few glands were felt in the groins and in the neck. The tonsils were not large and there were no adenoids.

CASE 3.—The patient, a female, aged nine years, was taken to hospital because of indefinite ill-health for five or six months, pains in the joints, and cough of a barking and paroxysmal nature. There was no sputum; the appetite was fair but sometimes failed; there was no sickness; the bowels were costive. There was no tuberculosis in the father or mother; her grandfather, however, lost three sisters from consumption and of the family of which she was one there

[1] A paper read at the Oxford meeting of the Society for the Study of Disease in Children on June 23rd, 1906.

were eight living while three were dead, one dying from "rapid consumption," another from meningitis, and a third from a cause not known. The patient was a thin child, especially so about the shoulders; the hair of the skin was very long. Veins were seen over the front of the chest; the jugulars were easily visible and did not collapse on inspiration. Of signs in the chest there was no dulness or diminished expansion of one side more than the other, the breath sounds were very slightly harsher on the right side, and there was a slight systolic murmur over the upper sternum on retraction of the head. There was one gland on the right side of the neck of about the size of a filbert and one on the left side about the same size. The mucous membrane of the throat was thick and pale.

CASE 4.—The patient was a female, aged eight years. For some months she had had a failing appetite and had been looking paler. She had had no cough. There were nine children in the family, all being healthy except the patient. The father suffered from consumption. Once the child passed some round worms. The patient was a well-grown but thin and pale girl. On the chest there were many visible veins in front, not lower than the xiphisternum, and above they stretched out towards the shoulders. Veins were seen on the temples and the jugulars, which were enlarged, did not properly collapse on inspiration. The chest moved fairly well, if anything more on the right side. The right side measured 12½ inches and the left 11¾ inches. The percussion note was very slightly duller on the left than on the right side, especially in the axilla. Breath sounds were well heard. No adventitious sounds were heard. The heart was normal but over the aortic region was a loud diastolic and feebler systolic murmur. There were no glands in the groins or axillæ but a few small ones were found in the neck. The abdomen was normal. The throat also was normal.

CASE 5.—The patient, a female, aged six years, suffered from loss of appetite and had got thinner, paler, and more languid lately; she was often sick and she had occasional headaches. The bowels were regular. She was the twelfth child; five of these had died from chest troubles. She had chicken-pox two months ago, since which time she had been worse. Veins were seen on the chest in front; the jugulars were large and did not collapse on inspiration. A retraction murmur was present. Glands were felt on both sides of the neck and in both axillæ, small and soft. The throat was normal and no adenoids were present. With treatment this child increased three pounds in weight in a fortnight, became less pale, and the appetite improved.

CASE 6.—The patient, a female, aged nine years, suffered from lassitude and dyspnœa on exertion. There was no loss of appetite. This had been going on for a year, during which time she had got much paler and thinner. She had a little cough in the morning and she had been much subject to "colds." The bowels were regular. She had had measles three years ago. Her grandfather died, as far as could be ascertained, from consumption. A few dilated veins were seen over the sternum. The jugulars did not collapse properly on inspiration. There were also veins on the temples. There was a well marked retraction murmur. Glands of about the size of filberts were felt on either side of the neck in the anterior triangle and a few shotty glands in both clavicular triangles. The hair on the back was downy.

CASE 7.—The patient, a female, aged seven years, had been ailing for three years. She was irritable, suffered from cough, which was relieved on bringing up a small amount of mucus; she had got paler and had a bad appetite. The bowels were regular. She sweated sometimes at night. She had had measles twice; there was no history of consumption in the family. The mother had had four children, two of whom died at birth. There were a few dilated veins on the chest; the jugulars were prominent and did not collapse properly on deep inspiration. The hair on the back was downy. There was a retraction murmur, the chest being otherwise normal. One gland on each side of the neck was felt and a few shotty ones in the posterior triangle and groins. The tonsils were slightly enlarged. There were no adenoids.

CASE 8.—The patient, a male, aged seven years, had had diarrhœa and sickness every three or four weeks for three years. An attack lasted two days. The motions during the attack were white and frothy and there was great pain. He had had no previous disease. There was consumption on his father's side. The patient was pale and undergrown. The muscles were wasted; the hair on the back was downy. The veins on the chest were numerous; the jugulars were prominent and did not collapse on deep inspiration. In the chest there was an impaired note in the upper part of the right chest with bronchial breathing further to the right of the sternum than normal but there were no adventitious sounds. A retraction murmur was present. The abdomen was full, the walls were thin, showing coils of bowel through; it had a doughy feel and some doubtful deep glands were felt. The liver and spleen were normal. No glands were felt anywhere. This child had a febrile attack with crepitations on the right side of the chest during my observation of him; he also developed a little fluid in the abdomen but both signs cleared up and recovery was complete with a marked increase in weight.

CASE 9.—The patient, a male, aged five years, was brought for advice about lumps in the neck. He had suffered from bronchitis every winter and had had whooping-cough. He was getting feebler for the last two months; he coughed a great deal and breathed badly at times. The glands had been present for three months. There was a strong history of consumption on the mother's side. The face was pale, the skin was very dry, the hair on the back was fine and long, the nutrition was poor, and the fingers were not clubbed. There were veins on the front of the chest and the jugular, which was prominent, did not collapse on inspiration. Measurement of the chest gave: right side, 9¾ inches; left side, 10½ inches. The right side gave a slightly impaired note compared with the left. Breath sounds on the right were bronchial at the apex, becoming broncho-vesicular and, finally, vesicular at the lower limits of the lung in front and in the axilla. Behind the air entry on the right side was less. In the neck there were many enlarged glands, some large, some small; the larger ones were matted together. There were small glands in the axillæ. The tonsils were large. The spleen was two inches below the costal margin and the liver one inch below. There was no fluid in the peritoneal cavity. The blood count showed a secondary anæmia with no change in the white cells. This case was supposed to be a case of lymphadenoma but the further symptoms—matting together of glands, condition of the hair on the back, &c.—seemed to point to a chronic tuberculosis of the glands.

CASE 10.—The patient, a male, aged five and a half years, had had some chest trouble one year ago. There were two living children in the family; one died from pneumonia and there had been one miscarriage; no history suggesting syphilis was obtainable. Two maternal uncles had died from consumption. A few venules were seen on the back; the temporal veins were seen and the jugulars were prominent and did not collapse completely on deep inspiration. Measurement of the chest gave: right side, 11¼ inches; left side, 11¼ inches. On the right side vocal resonance was slightly increased and the breath sounds were slightly diminished in intensity. No adventitious sounds were heard. There were glands at both sides of the neck in the region of the angle of the jaw and a few smaller ones down the neck. The tonsils were large.

CASE 11.—The patient, a female, aged four years, had never been a healthy child; her appetite was variable and she was always constipated. She had had a slight cough recently and sometimes sweated at night. A paternal uncle died from consumption. She was a pale, thin girl and showed veins on the chest and upper part of the abdomen. The jugulars were large and did not collapse on deep inspiration. The chest measurement was 9¾ inches on the right and 10 inches on the left. The note on the right side was slightly flatter than on the left. The abdomen was full; the liver was one inch below the costal margin; what appeared to be mesenteric glands were felt in the umbilical region. One large gland lay under the sterno-mastoid on the left side of the neck; a few smaller ones were felt in the right groin.

CASE 12.—The patient, a male, aged ten years, had suffered from wasting for ten months, previously to which he was a healthy boy except for bronchitis about one year ago. Two other children were healthy. There was no history of tuberculous affections. The patient was thin and wasted, with a soft sweating skin; the features were pinched. Veins were obvious on the chest, abdomen, chin, temples, and neck. The left jugular vein was large and did not collapse on deep inspiration. The hair of the head was thin and wiry. On the right side of the chest the note was slightly flatter than on the left; breath sounds were poorer and had a slight bronchial element. No retraction murmur was heard. The abdomen looked natural but on palpation had an irregular mass in the right iliac fossa. Some shifting dulness

was found in the flanks. The temperature was intermittent and the pulse was 150. The leucocytes numbered 22,000 per cubic millimetre of blood. An operation was performed in view of the possibility of there being a collection of pus in the right iliac fossa but an enlarged thickened appendix was found studded over with tubercles, tubercles being abundant on the neighbouring peritoneum, and a large mass of glands in the iliac region. This patient died and the mediastinum was examined; it is described later.

CASE 13.—The patient, a male, aged six years, had measles nine months previously; five months previously he had a "cold" in his abdomen and pain. The week before prominent, doughy, and showed no definite fluid or tenderness. One month later there was definite evidence of fluid in the abdomen and a slight lump developed later in the umbilical region.

In the accompanying synopsis will be seen the main features of these cases. 50 per cent. are male and 50 per cent. are female; the ages range from four to ten years. In 57 per cent. there is a history of tuberculosis in the family; visible veins on the chest are present in 92 per cent.; downy hair in 42 per cent.; a Eustace Smith retraction murmur in 71 per cent.; and palpable glands in the neck in 64 per cent.

SYNOPSIS OF THE CASES.

Case.	Age and sex.	Complaint and chief symptoms.	History of tuberculosis in family.	Enlarged jugular veins.	Do they collapse on inspiration.	Veins on chest.	Veins on back.	Veins under chin.	Veins on temples.	Condition of hair of skin.	Eustace Smith retraction murmur.	Glands.	Tuberculous lesions elsewhere.
1	8, M.	Wasting; cough.		+ (R. & L.)	No.	+				—	+	—	—
2	8, F.	Wasting; cough; vomiting.		+ (R. & L.)	,,	+			+	Downy.	+	—	—
3	9, F.	Debility; cough.	+	+ (R. & L.)	,,	+				,,	+	One gland in neck.	—
4	8, F.	Failing appetite.	+	+ (R. & L.)	,,	+			+	—		Small glands in neck.	—
5	6, F.	Failing appetite; wasting.	+ (?)	+ (R. & L.)	,,	+				—		,,	—
6	9, F.	Lassitude; breathlessness on exertion.	+	+ (R. & L.)	,,	+			+	Downy.	+	,,	—
7	7, F.	Irritability; cough.	0	+ (R. & L.)	,,	+				,,	+	Two large and several small glands in neck.	—
8	7, M.	Diarrhœa and vomiting in attacks.	+	+ (R. & L.)	,,	+				,,	+	Absent.	? Tuberculous peritonitis.
9	5, M.	"Weak chest"; cough.		+ (L.)	,,					,,			—
10	5½, M.	Debility; "chest trouble."	+	+ (R. & L.)	,,		+		+	—	+	Gland at angle of jaw.	—
11	4, F.	Debility; bad appetite.	+	+ (R. & L.)	,,	+				—	+	Gland in the neck and right groin.	—
12	10, M.	Wasting.		+ (L.)	,,	+		+	+	—	0		Tuberculous peritonitis.
13	6, M.	Delicate boy.	0	+ (R. & L.)	,,	+			+	—	+	Submaxillary glands.	—
14	6, M.	Debility; frequent defæcation.		+ (R. & L.)	,,	+	+	+	+	—	+	Glands in neck.	Developed tuberculous peritonitis.

R. = right; L. = left; + = present; 0 = absent.

admission he had pain in the abdomen. He was a delicate child but no tuberculous history was elicited. The patient was a fairly healthy looking child. The colour on the cheeks was slightly bluish. He had long eyelashes, otherwise the hair was not abnormal. Veins were seen on the temples, ears, and chest. Both jugulars were enlarged, the left being larger than the right; neither collapsed on deep inspiration. The subcutaneous fat was fair in amount. The chest was normal but a blowing retraction murmur was heard in systole and diastole. In both submaxillary regions there was a gland, larger in the right, which was of about the size of a Barcelona nut. Small glands were felt behind the sterno-mastoids, one on either side; the axillæ and groins were free.

CASE 14.—The patient, a male, aged six years, until nine months previously was a healthy boy but since then had suffered from a frequency of defæcation. The desire was especially after food and was sometimes so sudden that he had to leave the table. The motions were light yellow, at times liquid, and always very offensive. His general health was failing, he was getting thin, and only "picked" at his food. Occasionally he was sick in the morning; he brought up sometimes as much as a pint at once. He was less playful and more irritable than formerly. He had had measles, pneumonia, and "brain fever" when three years old. His father had abscesses in the neck and a maternal great-aunt suffered from consumption. He was a thin, delicate-looking boy. Veins were seen on his temples, chest, back, and groins. The jugulars were large and did not collapse completely on inspiration. The lungs were normal; a well-marked murmur was heard. One gland was felt on each side of the neck of the size of a large pea; the tonsils were normal and there were no adenoids. The abdomen was

4. *The cause of the conditions in the veins.*—I believe these cases to be examples of tuberculous bronchial glands described by Barthez and Rilliet[2] and amongst English writers by Eustace Smith.[3] The former writers, who first accurately described the condition clinically, refer to the conditions of the veins as follows: "*Dilatations, veineuses, &c.*—Un phénomène que nous n'avons que rarement observé, peut-être parceque notre attention n'a pas été suffisamment portée sur ce sujet, est la dilatation des veines du cou. Elle était fort remarquable chez un enfant de cinq ans, qui présentait à lui seul la plupart des symptômes de la phthisie bronchique. Elle est analogue à la dilatation des veines abdominales, que l'on observé quelquefois dans la phthisie mésentérique. D'autres effets de la compression vasculaire se rapprochent du précédent et doivent être mentionnés bien qu'on ait rarement occasion de les constater; nous voulons parler de la teinte violacée de la face, des lèvres et de la langue, résultat évident de la congestion veineuse. Les larges anastomoses qui existent entre toutes les parties du système veineux supérieur expliquent le peu de fréqnence de ces symptômes. Le facies de quelques uns des malades, se reproche de celui que l'on observe chez les individus atteints de maladies du cœur. Cependent, nous n'avons jamais constaté de lésion anatomique ou fonctionnelle de l'organe central de la circulation." Eustace Smith, the only writer of recent years so far as I have been able to find who refers to the condition of the veins more than to mention the possibility of venous obstruction, mentions that enlargement of the

[2] Barthez et Rilliet: Maladies des Enfants, tome iii., p. 623, second edition, 1854.

[3] Eustace Smith: The Wasting Diseases of Children, sixth edition, 1899, p. 309.

were eight living while three were dead, one dying from "rapid consumption," another from meningitis, and a third from a cause not known. The patient was a thin child, especially so about the shoulders; the hair of the skin was very long. Veins were seen over the front of the chest; the jugulars were easily visible and did not collapse on inspiration. Of signs in the chest there was no dulness or diminished expansion of one side more than the other, the breath sounds were very slightly harsher on the right side, and there was a slight systolic murmur over the upper sternum on retraction of the head. There was one gland on the right side of the neck of about the size of a filbert and one on the left side about the same size. The mucous membrane of the throat was thick and pale.

CASE 4.—The patient was a female, aged eight years. For some months she had had a failing appetite and had been looking paler. She had had no cough. There were nine children in the family, all being healthy except the patient. The father suffered from consumption. Once the child passed some round worms. The patient was a well-grown but thin and pale girl. On the chest there were many visible veins in front, not lower than the xiphisternum, and above they stretched out towards the shoulders. Veins were seen on the temples and the jugulars, which were enlarged, did not properly collapse on inspiration. The chest moved fairly well, if anything more on the right side. The right side measured 12¼ inches and the left 11¾ inches. The percussion note was very slightly duller on the left than on the right side, especially in the axilla. Breath sounds were well heard. No adventitious sounds were heard. The heart was normal but over the aortic region was a loud diastolic and feebler systolic murmur. There were no glands in the groins or axillæ but a few small ones were found in the neck. The abdomen was normal. The throat also was normal.

CASE 5.—The patient, a female, aged six years, suffered from loss of appetite and had got thinner, paler, and more languid lately; she was often sick and she had occasional headaches. The bowels were regular. She was the twelfth child; five of these had died from chest troubles. She had chicken-pox two months ago, since which time she had been worse. Veins were seen on the chest in front; the jugulars were large and did not collapse on inspiration. A retraction murmur was present. Glands were felt on both sides of the neck and in both axillæ, small and soft. The throat was normal and no adenoids were present. With treatment this child increased three pounds in weight in a fortnight, became less pale, and the appetite improved.

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CASE 7.—The patient, a female, aged seven years, had been ailing for three years. She was irritable, suffered from cough, which was relieved on bringing up a small amount of mucus; she had got paler and had a bad appetite. The bowels were regular. She sweated sometimes at night. She had had measles twice; there was no history of consumption in the family. The mother had had four children, two of whom died at birth. There were a few dilated veins on the chest; the jugulars were prominent and did not collapse properly on deep inspiration. The hair on the back was downy. There was a retraction murmur, the chest being otherwise normal. One gland on each side of the neck was felt and a few shotty ones in the posterior triangle and groins. The tonsils were slightly enlarged. There were no adenoids.

CASE 8.—The patient, a male, aged seven years, had had diarrhœa and sickness every three or four weeks for three years. An attack lasted two days. The motions during the attack were white and frothy and there was great pain. He had had no previous disease. There was consumption on his father's side. The patient was pale and undergrown. The muscles were wasted; the hair on the back was downy. The veins on the chest were numerous; the jugulars were prominent and did not collapse on deep inspiration. In the chest there was an impaired note in the upper part of the right chest with bronchial breathing further to the right of the sternum than normal but there were no adventitious sounds. A retraction murmur was present. The abdomen was full, the walls were thin, showing coils of bowel through; it had a doughy feel and some doubtful deep glands were felt. The liver and spleen were normal. No glands were felt anywhere. This child had a febrile attack with crepitations on the right side of the chest during my observation of him; he also developed a little fluid in the abdomen but both signs cleared up and recovery was complete with a marked increase in weight.

CASE 9.—The patient, a male, aged five years, was brought for advice about lumps in the neck. He had suffered from bronchitis every winter and had had whooping-cough. He was getting feebler for the last two months; he coughed a great deal and breathed badly at times. The glands had been present for three months. There was a strong history of consumption on the mother's side. The face was pale, the skin was very dry, the hair on the back was fine and long, the nutrition was poor, and the fingers were not clubbed. There were veins on the front of the chest and the jugular, which was prominent, did not collapse on inspiration. Measurement of the chest gave: right side, 9¾ inches; left side, 10¼ inches. The right side gave a slightly impaired note compared with the left. Breath sounds on the right were bronchial at the apex, becoming broncho-vesicular and, finally, vesicular at the lower limits of the lung in front and in the axilla. Behind the air entry on the right side was less. In the neck there were many enlarged glands, some large, some small; the larger ones were matted together. There were small glands in the axillæ. The tonsils were large. The spleen was two inches below the costal margin and the liver one inch below. There was no fluid in the peritoneal cavity. The blood count showed a secondary anæmia with no change in the white cells. This case was supposed to be a case of lymphadenoma but the further symptoms—matting together of glands, condition of the hair on the back, &c.—seemed to point to a chronic tuberculosis of the glands.

CASE 10.—The patient, a male, aged five and a half years, had had some chest trouble one year ago. There were two living children in the family; one died from pneumonia and there had been one miscarriage; no history suggesting syphilis was obtainable. Two maternal uncles had died from consumption. A few venules were seen on the back; the temporal veins were seen and the jugulars were prominent and did not collapse completely on deep inspiration. Measurement of the chest gave: right side, 11¼ inches; left side, 11¼ inches. On the right side vocal resonance was slightly increased and the breath sounds were slightly diminished in intensity. No adventitious sounds were heard. There were glands at both sides of the neck in the region of the angle of the jaw and a few smaller ones down the neck. The tonsils were large.

CASE 11.—The patient, a female, aged four years, had never been a healthy child; her appetite was variable and she was always constipated. She had had a slight cough recently and sometimes sweated at night. A paternal uncle died from consumption. She was a pale, thin girl and showed veins on the chest and upper part of the abdomen. The jugulars were large and did not collapse on deep inspiration. The chest measurement was 9¾ inches on the right and 10 inches on the left. The note on the right side was slightly flatter than on the left. The abdomen was full; the liver was one inch below the costal margin; what appeared to be mesenteric glands were felt in the umbilical region. One large gland lay under the sterno-mastoid on the left side of the neck; a few smaller ones were felt in the right groin.

CASE 12.—The patient, a male, aged ten years, had suffered from wasting for ten months, previously to which he was a healthy boy except for bronchitis about one year ago. Two other children were healthy. There was no history of tuberculous affections. The patient was thin and wasted, with a soft sweating skin; the features were pinched. Veins were obvious on the chest, abdomen, chin, temples, and neck. The left jugular vein was large and did not collapse on deep inspiration. The hair of the head was thin and wiry. On the right side of the chest the note was slightly flatter than on the left; breath sounds were poorer and had a slight bronchial element. No retraction murmur was heard. The abdomen looked natural but on palpation had an irregular mass in the right iliac fossa. Some shifting dulness

was found in the flanks. The temperature was intermittent and the pulse was 150. The leucocytes numbered 22,000 per cubic millimetre of blood. An operation was performed in view of the possibility of there being a collection of pus in the right iliac fossa but an enlarged thickened appendix was found studded over with tubercles, tubercles being abundant on the neighbouring peritoneum, and a large mass of glands in the iliac region. This patient died and the mediastinum was examined; it is described later.

CASE 13.—The patient, a male, aged six years, had measles nine months previously; five months previously he had a "cold" in his abdomen and pain. The week before admission he had pain in the abdomen. He was a delicate child but no tuberculous history was elicited. The patient was a fairly healthy looking child. The colour on the cheeks was slightly bluish. He had long eyelashes, otherwise the hair was not abnormal. Veins were seen on the temples, ears, and chest. Both jugulars were enlarged, the left being larger than the right; neither collapsed on deep inspiration. The subcutaneous fat was fair in amount. The chest was normal but a blowing retraction murmur was heard in systole and diastole. In both submaxillary regions there was a gland, larger in the right, which was of about the size of a Barcelona nut. Small glands were felt behind the sterno-mastoids, one on either side; the axillæ and groins were free.

CASE 14.—The patient, a male, aged six years, until nine months previously was a healthy boy but since then had suffered from a frequency of defæcation. The desire was especially after food and was sometimes so sudden that he had to leave the table. The motions were light yellow, at times liquid, and always very offensive. His general health was failing, he was getting thin, and only "picked" at his food. Occasionally he was sick in the morning; he brought up sometimes as much as a pint at once. He was less playful and more irritable than formerly. He had had measles, pneumonia, and "brain fever" when three years old. His father had abscesses in the neck and a maternal great-aunt suffered from consumption. He was a thin, delicate-looking boy. Veins were seen on his temples, chest, back, and groins. The jugulars were large and did not collapse completely on inspiration. The lungs were normal; a well-marked murmur was heard. One gland was felt on each side of the neck of the size of a large pea; the tonsils were normal and there were no adenoids. The abdomen was prominent, doughy, and showed no definite fluid or tenderness. One month later there was definite evidence of fluid in the abdomen and a slight lump developed later in the umbilical region.

In the accompanying synopsis will be seen the main features of these cases. 50 per cent. are male and 50 per cent. are female; the ages range from four to ten years. In 57 per cent. there is a history of tuberculosis in the family; visible veins on the chest are present in 92 per cent.; downy hair in 42 per cent.; a Eustace Smith retraction murmur in 71 per cent.; and palpable glands in the neck in 64 per cent.

SYNOPSIS OF THE CASES.

Case.	Age and sex.	Complaint and chief symptoms.	History of tuberculosis in family.	Enlarged jugular veins.	Do they collapse on inspiration.	Veins on chest.	Veins on back.	Veins under chin.	Veins on temples.	Condition of hair of skin.	Eustace Smith retraction murmur.	Glands.	Tuberculous lesions elsewhere.
1	8, M.	Wasting; cough.		+ (R. & L.)	No.	+				—	+	—	—
2	8, F.	Wasting; cough; vomiting.		+ (R. & L.)	,,	+			+	Downy.	+	—	—
3	9, F.	Debility; cough.	+	+ (R. & L.)	,,	+				,,	+	One gland in neck.	—
4	8, F.	Failing appetite.	+	+ (R. & L.)	,,	+			+	—		Small glands in neck.	—
5	6, F.	Failing appetite; wasting.	+ (?)	+ (R. & L.)	,,	+				—		,,	—
6	9, F.	Lassitude; breathlessness on exertion.	+	+ (R. & L.)	,,	+			+	Downy.	+	,,	—
7	7, F.	Irritability; cough.	0	+ (R. & L.)	,,	+				,,	+	Two large and several small glands in neck.	—
8	7, M.	Diarrhœa and vomiting in attacks.	+	+ (R. & L.)	,,	+				,,	+	Absent.	? Tuberculous peritonitis.
9	5, M.	"Weak chest"; cough.		+ (L.)	,,					,,			—
10	5½, M.	Debility; "chest trouble."	+	+ (R. & L.)	,,		+		+	—	+	Gland at angle of jaw.	—
11	4, F.	Debility; bad appetite.	+	+ (R. & L.)	,,	+				—	+	Gland in the neck and right groin.	—
12	10, M.	Wasting.		+ (L.)	,,	+		+	+	—	0		Tuberculous peritonitis.
13	6, M.	Delicate boy.	0	+ (R. & L.)	,,	+			+	—	+	Submaxillary glands.	—
14	6, M.	Debility; frequent defæcation.		+ (R. & L.)	,,	+	+	+	+	—	+	Glands in neck.	Developed tuberculous peritonitis.

R. = right; L. = left; + = present; 0 = absent.

4. *The cause of the conditions in the veins.*—I believe these cases to be examples of tuberculous bronchial glands described by Barthez and Rilliet[2] and amongst English writers by Eustace Smith.[3] The former writers, who first accurately described the condition clinically, refer to the conditions of the veins as follows: "*Dilatations, veineuses, &c.*—Un phénomène que nous n'avons que rarement observé, peut-être parceque notre attention n'a pas été suffisamment portée sur ce sujet, est la dilatation des veines du cou. Elle était fort remarquable chez un enfant de cinq ans, qui présentait à lui seul la plupart des symptômes de la phthisie bronchique. Elle est analogue à la dilatation des veines abdominales, que l'on observé quelquefois dans la phthisie mésentérique. D'autres effets de la compression vasculaire se rapprochent du précédent et doivent être mentionnés bien qu'on ait rarement occasion de les constater; nous voulons parler de la teinte violacée de la face, des lèvres et de la langue, résultat évident de la congestion veineuse. Les larges anastomoses qui existent entre toutes les parties du système veineux supérieur expliquent le peu de fréqnence de ces symptômes. Le facies de quelques uns des malades, se reproche de celui que l'on observe chez les individus atteints de maladies du cœur. Cependent, nous n'avons jamais constaté de lésion anatomique ou fonctionnelle de l'organe central de la circulation." Eustace Smith, the only writer of recent years so far as I have been able to find who refers to the condition of the veins more than to mention the possibility of venous obstruction, mentions that enlargement of the

[2] Barthez et Rilliet: Maladies des Enfants, tome iii., p. 623, second edition, 1854.

[3] Eustace Smith: The Wasting Diseases of Children, sixth edition, 1899, p. 309.

veins of one side of the face and neck with a prominent jugular on that side should always lead one to suspect the existence of enlarged bronchial glands.

In describing the tuberculous diathesis several writers have referred to the presence of visible veins; Landouzy,[4] describing the tuberculous predisposition, says: "Peau blanche, fine transparente marbrée de veinules, souvent tachetée de macules; système pileux soyeux, de coloration rousse ou rouge; iris bleu; chairs molles; sueurs faciles, parfois odorantes; formes plutôt gracilles et élégantes." Eustace Smith[5] says: "Such children are tall for their age and slightly made, the skin is delicate and transparent-looking, allowing the superficial veins to be easily seen," &c. It is questionable whether thinness and transparency of the skin, a condition which has been accepted by medical writers, is sufficient to explain the condition in which these veins become visible. In wasting other than that due to tuberculosis it is not common to see superficial venules; it is possible to see, as I have seen, superficial venules in children with a moderately good layer of superficial fat; further, in view of the association in the cases quoted of dilated jugular veins along with visible venules on the chest, it is legitimate to assume that the two conditions may be due to the same cause. Only once (Case 12) has it been possible to observe the conditions under which the enlarged veins are produced and in this case only the left jugular vein was dilated. A dissection of the anterior mediastinum shows a ring of fleshy enlarged glands encircling the left innominate vein (Figs. 1 and 2) attached

FIG. 1.

FIG. 2.

Fig. 2 is a tracing from Fig. 1. *a*, Superior vena cava. *b*, *c*, Glass rods in the right and left innominate veins respectively. *d*, Pericardium. *e*, Small, fleshy lymphatic glands compressing the left innominate vein. *f*, Thymus. *g*, Root of left lung. *h*, *i*, *k*, Glass rods in the innominate artery and the left carotid and subclavian arteries respectively.

below to the thymus. Microscopic sections of one of the glands shows giant cell systems and a few tubercle bacilli. The primary focus of infection in this case has been a mass of caseous glands containing numerous bacilli in the posterior mediastinum. Stretching up from this focus along the lymphatics are several small fleshy glands of the same type as that encircling the vein. In assigning the cause of the condition in the other cases supposition must necessarily take the place of proof, but in view of the facts enumerated above, the history of tuberculosis, the condition of the hair, the presence of a retraction murmur, and the presence of small glands in the neck, the importance of which has been insisted on by Legroux[6] as an aid to the diagnosis of tuberculosis in children, it becomes highly probable that tuberculosis of the mediastinal glands is the cause.

From the pathological standpoint we have adequate proof that tuberculosis of the glands, especially those of the mediastinum, is extremely frequent in children who have died from diseases other than tuberculosis, and that where death has been due to tuberculosis an overwhelming percentage of cases show the glandular mediastinal affection in addition to that of other organs. It is sufficient in this connexion merely to mention the writings of Sims Woodhead,[7] Coleman,[8] Walter Carr,[9] Leonard Guthrie,[10] in this country, and C. Spengler[11] and Neumann[12] in Germany as a few examples of writers dealing with the subject from this point of view. Some of the French writers have recognised from the results of this work that most children attending the out-patient departments of our hospitals harbour tubercle bacilli somewhere in their bodies. As yet, however, we have had no means of detecting minute glandular lesions of the mediastinum so frequently the cause of a general infection, but it is suggested that the presence of visible veins on the chest, dilated jugular veins which do not collapse on inspiration, visible veins under the chin or on the temples, together with the other suggestive facts (enumerated above) in the history and state of the patient may lead to an increase in the number of these cases diagnosed during life. It is hardly necessary to mention how quickly these children improve under a liberal diet and ordinary attention to health and therefore what a valuable weapon for prophylaxis the knowledge of the presence of mediastinal tuberculosis may become.

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Oxford.

[4] Landouzy: Prédispositions Tuberculeuses, Révue de Médecine, 1899, p. 429. [5] Loc. cit.

[6] Legroux: La Micro-polyadénopathie considerée comme Indice de la Tuberculose Profonde chez les Enfants, Congrès pour l'Etude de la Tuberculose, 1888.

[7] Sims Woodhead: Tuberculosis and Tabes Mesenterica, THE LANCET, vol. ii., 1888, pp. 51 and 99.

[8] Coleman: The Distribution of Tubercle in Abdominal Tuberculosis, Brit. Med. Jour., 1893, vol. ii., p. 740.

[9] Walter Carr: The Starting-point of Tuberculous Disease in Children, Transactions of the Medical Society, 1894, p. 288.

[10] Leonard Guthrie: The Distribution and Origin of Tuberculosis in Children, THE LANCET, Feb. 4th, 1899, p. 286.

[11] C. Spengler: Zur Bronchialdrüsen Tuberkulose der Kinder, Zeitschrift für Hygiene, 1893, Band xiii., p. 347.

[12] Neumann: Ueber die Bronchialdrüsen Tuberkulose und ihre Beziehungen zur Tuberkulose im Kindesalter, Deutsche Medicinische Wochenschrift, 1893, Nos. 9, 10, 12, 13, 14, 15, 16, and 17.

STRANGULATION OF THE APPENDIX VERMIFORMIS IN HERNIAL SACS.

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THE appendix as a content of a hernial sac is by no means infrequent. Many statistics have been compiled showing a percentage of cases in which the appendix is herniated. These, however, can hardly be quoted as an accurate interpretation of the relative frequency of the appendix in hernial sacs, since in many cases the latter is empty at the time of operation and the viscus which has occupied it must remain unknown. The combined statistics of Hoffmann, Colzi, Wassiljew, Coley, and Bundschuh are that in 3054 cases of inguinal and femoral hernia the appendix was present 53 times. In 250 cases of inguinal and femoral hernia of adults collected from the statistics of Charing Cross Hospital the appendix is mentioned as being a content of the sac in four only; in 100 consecutive cases of radical cure of inguinal hernia in children I have found the appendix present eight times. The total of these figures (which comprise cases at all ages and in both sexes) is that in 3404 cases of inguinal and femoral hernia the appendix has been present as a content of the sac in 65. These figures merely show the occasions on which the appendix has actually been seen and not the possible relative frequency of the organ in hernial sacs; they include cases in which the appendix only is herniated and in which other viscera are also present. The relative frequency of appendicular femoral and inguinal hernia is not far from equal. Statistics vary a little on this point but the larger number of cases collected show very little difference in these two forms of hernia.

Two accidents may happen to the appendix when herniated. The more frequent of these is an inflammation

similar to that which befalls the appendix when situated within the abdomen. The second is strangulation of the appendix at the hernial ring. The former condition is the better recognised one. It is more frequently observed in the inguinal than in the femoral hernia and this probably so because of the comparatively high frequency with which it occurs in children in whom inguinal hernia is so exceedingly common. In appendicitis occurring in a hernial sac the appendix may be the sole content of the sac or may be present together with other viscera. In appendicitis occurring in inguinal hernial sacs in man the proportion is very nearly equal. Thus Wassiljew found that in 31 cases the appendix was the only content of the sac, in 23 cases in addition to the appendix the cæcum was also present, and in eight cases other portions of the intestine were also present. In appendicitis occurring in femoral herniæ the appendix appears to be more often the only content. When the herniated appendix becomes strangulated naturally it is the sole content of the sac, although in a few cases some omentum has also been present to which further reference will be made.

It is a matter often of considerable difficulty to distinguish between the inflamed appendix and the strangulated appendix in hernial sacs. In the literature are many cases recorded as incarcerated or strangulated appendices when the sac is full of pus, the appendix perforated or gangrenous, and, in fact, has every appearance of being acutely inflamed. It is conceivable that such a case may be one of primary strangulation and later acute inflammation, but this it is impossible to say and in my statistics such cases are omitted. On the other hand, some cases are recorded as appendicitis which pathologically and clinically seem undoubted examples of pure strangulation. The appendix when incarcerated rapidly swells and has appearances simulating an acute inflammation. In the majority of cases the differentiation can only be made in the early stages. Later the distinction is practically impossible since the strangulated appendix becomes acutely infected, and the primary cause of this cannot with certainty be told. Both diseases have an abrupt onset with pain in the hernial region, often abdominal pain, either around the umbilicus, lower abdomen, or more diffused and colicky in character. Vomiting is common to both. In appendicitis the temperature is elevated from the beginning, but this perhaps is not so marked as when an abdominal appendix becomes inflamed, since a thickened hernial sac does not react in the same way as does normal peritoneum; in strangulation of the appendix the temperature is subnormal at the onset and only rises later when inflammatory changes set in. The inflamed appendix rapidly gives rise to evidences of inflammation of the coverings; the skin will soon become reddened and œdematous; in the strangulated appendix such changes are much longer delayed. Pathologically the strangulated appendix has in the sac clear, slightly turbid, or blood-stained fluid with an absence of inflammatory lymph. The appendix is in a condition of venous hyperæmia only, is in the majority of cases free from adhesions, and has not any concretions in its interior; it shows at the level of strangulation a distinct furrow. Its mesentery is equally affected in this venous hyperæmia. After division of the constricting agent it has been noticed by Honsell and myself that the colour of the appendix changes, as does any portion of strangulated bowel. It is interesting to note in this connexion that it is as safe to reduce an incarcerated appendix as any other portion of the bowel. This has been done in at least 15 cases and the after clinical course was apparently as smooth as any simple strangulated hernia. The after course of an inflamed appendix which had been reduced would probably be very different.

From the literature I have collected 53 cases (including three of my own) which I regard as examples of strangulation of the appendix. In by far the majority of cases the appendix is the sole content of the hernial sac. In four, however, the omentum has also been present and both appendix and omentum are strangulated. In one of Koerte's cases an old woman had an adherent omental hernia for some time. An acute incarceration forced operation three days after the beginning of the symptoms. Barnsby records a case of a woman 45 years of age who for four years had complained of colic in the right iliac fossa coming on in crises. A femoral hernia was found; it was easily reducible. A bandage was worn and then abandoned. Acute symptoms of strangulation followed and on the fourth day of the illness at the operation the sac was found to contain a quantity of black fœtid liquid, a portion of omentum, and the appendix with its cæcal attachment. The omentum and the cæcum close to its appendicular attachment were strangulated; these were removed through an abdominal incision. Legueu records a case of a woman, aged 53 years, who suddenly after some effort was seized with colic and noticed for the first time a swelling in the femoral region. The symptoms continued and on the tenth day of the illness an operation was performed; the sac contained in addition to the appendix some epiploic fringes of a black colour; both were removed. Bundschuh records a case of a woman, aged 60 years, who for two years had had a right femoral hernia; acute pain and nausea developed and the hernia became irreducible. Operation was performed on the third day of the illness. The sac contained turbid fluid, a strangulated appendix, and hæmorrhagic omentum; both the latter were resected.

The appendix herniates by virtue of its free mobility and its situation in the abdomen. The length of the appendix is not an etiological factor. In only one or two cases is the appendix mentioned as being of excessive length. It is not the whole appendix which usually lies in the hernial sac, although this may be so and even include the cæcal attachment as in Barnsby's case; but the rule is that only a portion is herniated—the greater portion it is true. The mobility of the cæcum probably has something to do with the occurrence of isolated appendicular hernia in some cases. This, however, appears not to be invariably the case. In four cases of this series it was impossible to drag the cæcum down to the hernial ring to reach the insertion of the appendix, and the latter had to be removed through an abdominal incision. In four other cases the appendix was incompletely removed through the hernial ring; the probable cause of the incomplete removal seems to have been the immobility of the cæcum. In the other case in which the appendix was removed this seems to have been readily effected through the hernial incision. In these cases, however, it is not always stated whether the whole appendix was removed or not and no note is made as to the mobility of the cæcum.

The appendix usually protrudes through the hernial ring in such a way that its apex is the most advanced point. This is not invariably so. In some cases it is distinctly bent and curved upon itself. In a few instances it is so curved that the proximal and distal extremities lie within the abdominal cavity. Such cases are recorded by Honsell, Guinard, and Rotter. The appendix in the majority of cases lies free in the hernial sac, being without any adhesions. The meso-appendix shares in the strangulation and it is often noted that the meso-appendix is very well developed, being very rich in fat. Such a thickly developed meso-appendix seems a probable factor in the etiology of the strangulation.

The rigid structures forming the boundary of the ring are responsible for the strangulation. In one case recorded by Rochard the strangulation was not at the crural arch but by a sort of diaphragm in the sac. This was a woman, 70 years of age, who for three or four days had had pain and swelling in the right groin; the bowels had not been opened for three days but flatus had been passed; there was nausea but no vomiting; the abdomen was a little swollen; it was supple and not tender. In the femoral region was a small, rounded, tender, and irreducible swelling. At the operation after opening the sac and cutting the crural arch the appendix was found to be strangulated about two centimetres above its inferior extremity, and the agent of strangulation was a sort of diaphragm in the sac, above which the appendix was completely healthy, whilst below it was black and necrotic, and between the two portions was a furrow impressed by this diaphragm.

Of the 53 collected cases only three occurred in the male subject. Of these three, two were children—one a baby five weeks old and my own case, a baby aged 22 months. Both were inguinal herniæ. The third case recorded by Rahn is also an example occurring in an inguinal sac. This was a man, aged 57 years, who for five years had had a reducible inguinal hernia. This came down one day and was associated with pain and vomiting; it was reduced by a surgeon. Eight days before operation the rupture again came down and could not be reduced. There was little collapse. The man vomited once on the fourth day of the illness, lost his appetite, and suffered from abdominal pain. The abdomen became somewhat distended. At the operation the sac contained blood-stained serous fluid, with the appendix strangulated at the internal abdominal ring; there were no adhesions. The appendix was removed after

dilating the ring and the wound allowed to granulate. Strangulation of the appendix in the male subject seems a great rarity.

Fifty cases occurred in women and in every case the appendix was strangulated in a femoral hernia. In every instance the hernia was on the right side. The age at which strangulation occurred is not given in five cases. In 45 cases in which it is mentioned the youngest was 21 and the oldest 87 years of age. The age incidence in decades is as follows:—

Between	20	and	30	years of age	... ...	2	cases.
,,	30	,,	40	,,	... ...	6	,,
,,	40	,,	50	,,	... ...	9	,,
,,	50	,,	60	,,	... ...	13	,,
,,	60	,,	70	,,	... ...	10	,,
,,	70	,,	80	,,	... ...	3	,,
,,	80	,,	90	,,	... ...	2	,, (ages 80 and 87).

22 of these 50 patients were known to have had a hernia before strangulation occurred. The duration of the hernia is given as anything from between two months and 13 years—years, several years, and in Bandschuh's case, a woman, 53 years of age, the hernia had been known to exist since childhood. In 18 cases the existence of a hernia previously to the symptoms of strangulation was not known. In the remaining cases this fact is not mentioned. In the cases in which the hernia had been present before acute symptoms it was of small size. In many cases it is mentioned as being quite small and in others it is said not to have caused any inconvenience, and a small hernia is therefore inferred. In by far the majority of cases the hernia was easily reducible. This, however, is not always the case. In Levy's case the hernia had been gradually increasing in size for two months and was irreducible but was only painful for four days. In Swasey's case the hernia was never completely reducible; it had existed for six years and a truss had not been worn. In one of Koerte's cases an adherent omental hernia had existed for some time. In several cases the hernia had only been down on a few occasions. The best example of this is the case recorded by Waring, of a woman, 56 years of age, who had had a hernia 12 years before; this was easily reduced and did not occur till 11 years later, when it became irreducible and painful. It was then reduced with difficulty. The third time it occurred it became strangulated.

In a few cases the hernia had given trouble before the acute symptoms set in which called for operation. Rotter's case was a woman, 68 years of age, who had had an irreducible hernia of the size of a hazel-nut for four years; this was occasionally painful but acute symptoms had only occurred five days before operation. Ricou records the case of a woman, 52 years of age, who had had a femoral hernia for seven years; this was easily reducible. Some painful crises were experienced at times accompanied by vomiting. The hernia became irreducible but without symptoms of strangulation. Operation was advised but refused. Two months later symptoms of strangulation occurred. In one of Pollosson's cases, a woman, 32 years of age, strangulation had occurred once before but the hernia was reduced and a truss had been worn since. Later a recurrence of strangulation occurred demanding operation. Vulliet records the case of a woman, 54 years of age, who had had a hernia for 14 years. She had never worn a truss, since the hernia had never caused any inconvenience and was always easily reducible. One month previously, for the second time recently, she suffered violent abdominal pain; the hernia became irreducible and increased in size. The swelling was aspirated and some clear fluid withdrawn, after which the hernia was reduced. Three weeks later the same symptoms were repeated and an operation was necessary. Davies-Colley records the case of a woman, 32 years of age, who, 12 months previously, whilst lifting a heavy weight felt sudden pain in the right groin; this was followed by vomiting. The symptoms soon subsided but recurred from time to time. On the second occasion she noticed a swelling in the groin. She was always able to return the swelling and the pain never lasted more than an hour. Sometimes the hernia would not come down for two or three months. Later strangulation occurred and this was relieved by operation. In Waring's case the hernia had once previously become painful and was only reduced with difficulty.

The characteristics of these herniæ are that they are of small size, generally early reducible, and only present on occasions and not constantly, sometimes only having been observed once or twice previously to strangulation. They had not given rise to any inconvenience and hence a truss has rarely been worn. Occasionally they have been irreducible and in a few cases have given rise to symptoms of incarceration previously. The sac of a femoral hernia is regarded by most as acquired and presumably these sacs would be considered of acquired origin. In the cases in which a hernia has not been known to be present previously to strangulation it is difficult to conceive that the sacs are acquired. In such cases the appendix must be herniated into a preformed sac. If this preformed sac were acquired the presence of a hernia would probably be known. It seems most likely that the sacs are of congenital origin. The same inference is perfectly logical in the other cases also. If these sacs are acquired and produced by abdominal pressure and laxity of the tissues around the femoral ring, they should steadily increase in size and not remain quite small after some years, they should be more or less constantly occupied and not only at times, and the continued pressure should stretch the tissues bounding the femoral ring so as to allow of sufficient room for a small viscus like the appendix to pass with impunity. In order that the appendix may be strangulated it is necessary to have a sac into which it can slip and a small ring bounded by rigid tissue. This is exactly what one expects in a congenitally formed sac. Given this preformed sac with its neck surrounded by well-developed tendinous fibres and an appendix lying in close proximity, there is nothing mysterious when, on some sudden increase of intra-abdominal pressure, the appendix is forced through the femoral ring. A knowledge of the very small size of the normal ring will readily allow one to understand how even a small viscus like the appendix may become strangulated by it. This chance of strangulation is increased when the meso-appendix is thick and bulky, a fact which has been commented upon in several cases.

SYMPTOMS.

In all cases a detailed symptomatology is not given. The majority of cases are ushered in with acute local symptoms and in 38 cases some abdominal symptoms are also mentioned. In three cases abdominal symptoms preceded the local ones. The symptoms were abdominal pain, nausea, vomiting, and only later—a few hours to 24 hours—was the hernia discovered. In 19 cases vomiting occurred at the onset and was repeated several times; in three cases vomiting occurred at the onset of strangulation only. Nausea is frequently present in these cases unassociated with vomiting. In a few cases abdominal pain has been a feature. The pain is more or less diffused, or around the umbilicus, or in the lower abdomen; it is described as "dragging" or "colicky" in character. On two occasions "dragging" sensations were experienced in the right iliac fossa. The abdomen in a few cases has been distended and tender, but free from rigidity. Constipation is the rule and often the bowels have not acted throughout the illness of some three or four days' duration. Loose motions were passed in one case. In ten cases absolute obstruction to gas and fæces was present. The local signs are those of strangulated hernia. Collapse does not seem to have been a marked feature; it is only mentioned in four cases and two of these were in children.

Occasionally a strangulated appendix runs a more chronic course. Abdominal symptoms had been absent; real signs of strangulation had not been present. The hernia has suddenly become irreducible—perhaps on its first appearance; it increases in size, with or without pain. The appendix, thus loosely snared, has been operated upon, reduced or removed, at intervals of ten days, 14 days, 18 days, one month, and five weeks after the irreducibility.

The diagnosis of a strangulated appendix is not mentioned in any one case as being accurately made. In some cases it is definitely asserted that there were no signs present which allowed one to think that any portion of the intestinal tract was involved. Such cases were generally regarded as strangulation of a portion of omentum. In the acute cases with complete obstruction to gas and fæces (this is recorded in one-fifth of the cases) the symptoms are those of strangulation of any portion of bowel. The differential diagnosis is impossible. In other cases with incomplete obstruction the diagnosis has to be made from an incarcerated omental hernia, strangulation of a portion of the lumen of the bowel or a diverticulum, and possibly from a tubo-ovarian hernia torsioned or strangulated. All these occur in quite small herniæ, in herniæ which had been previously reducible, and these accidents may all occur on the first appearance of the hernia. The constitutional and abdominal symptoms may

be precisely similar, as also the local signs. The "dragging" sensation experienced in the right iliac fossa, increased by pressure over the hernia, has been present too rarely to consider it as a sign of diagnostic use. A strangulated portion of intestinal tract would in general give rise to a more early infection of the hernial coverings than would an incarcerated omentocele. This may be of some importance although a late sign, but many patients curiously enough do not seek advice for a strangulated appendicocele until they have suffered for two or three days. It may be definitely asserted that there are no practical signs by means of which it may be said that it is the appendix which is strangulated. The obvious conclusion is that all swellings in the groin which are reasonably suspected as hernial and are painful and irreducible should be explored without delay. Delay may not perhaps cost the patient her life but it may consign her to a long and tedious illness and deprive her of the chances of a cure of the hernia.

PROGNOSIS AND TREATMENT.

The prognosis of this condition is perfectly satisfactory. Every case resulted in recovery as far as the strangulation of the appendix was concerned. The results are far superior to those of appendicitis occurring in hernial sacs. In 38 cases the duration of strangulation before operation is given. In only two cases was operation performed at the end of 12 hours; in 4 more at the end of 24 hours. In 9 cases two days elapsed, in 7 cases three days, in 4 cases four days, in 1 case five days, in 5 cases eight days, in 1 case nine days, in 1 case ten days, in 1 case 14 days, in 1 case 18 days, in 1 case one month, and in 1 case five weeks between the initial symptoms and the operation. In several cases the appendix has been reduced after exposure at the operation. Bayer records the case of a woman, 27 years of age, who for 18 days had an irreducible femoral hernia; this gradually enlarged. At the operation the sac contained some blood-stained fluid and the appendix; the latter was reduced and the wound was allowed to granulate. Davies Colley reports the case of a woman who for 12 months had had recurrent attacks of pain and vomiting with descent of a small hernia, on the replacement of which the symptoms disappeared. She then developed another attack and the hernia became irreducible. Taxis was tried without success. Operation was performed on the third day; the appendix was little altered, except for some blood extravasation under its peritoneal coat; it was returned after notching the ring and the sac was closed. Jacobson in a woman 43 years of age returned a constricted appendix after notching Gimbernat's ligament and removed the hernial sac. Kasinowski in a woman, aged 35 years, who had suffered from symptoms for two days, found a small quantity of fluid in the sac and a very little altered appendix; the latter was reduced. Mueller in a woman, aged 75 years, reduced an appendix which had a distinctly bluish colour and had been strangulated for three days. Rose reports the case of a woman, aged 54 years, who had had a hernia for some time. She suddenly developed pain in the hernia and began to vomit; the following two days she vomited three or four times a day; the pains became colicky and violent, and stools and flatus ceased to pass. Operation was performed 55 hours after the beginning of the symptoms; the strangulated appendix was not removed; it was blackish-red in colour and the strangulated portion was probably twice the size of the other part. Sauvage describes the case of a woman who had a strangulated femoral hernia, the content of which was the appendix, which was reduced after dilating the hernial ring. Swasey records the case of a woman, 67 years of age, who had had a right femoral hernia for six years; the hernia was completely reduced; she had worn a truss. The hernia became painful and she suffered from abdominal pain and nausea. Operation was performed 36 hours later. The sac was exposed and clear fluid was seen within it; this was withdrawn through a hypodermic needle. The appendix was seen and felt within the sac and returned to the abdomen by manipulation without opening the sac. Tapie records the case of a woman, aged 67 years, who had had a right strangulated hernia 15 years before. She was then operated upon and some intestine was found in the sac; the intestine was reduced and the sac was closed. Six years later the hernia recurred; it was easily reducible and she wore a truss. For two years the truss had been abandoned and the hernia became irreducible and increased in size and then it suddenly became painful. She suffered also from colicky pain and vomiting. At the operation the sac was found to contain the appendix only; it was strangulated and greatly swollen; the constricting ring was liberated and the appendix was reduced. Vulliet reports a case of a woman, aged 54 years, who had had a hernia for four years. She had never worn a truss, as the hernia did not cause her any inconvenience and was easily reducible. A month previously, for the second time recently, violent abdominal pains were experienced. The hernia became irreducible and increased in size. She had some nausea and vomiting, and the bowels acted regularly. The swelling was aspirated and clear fluid withdrawn, after which the hernia was reduced. Three weeks later a relapse occurred and the same symptoms were repeated. The sac was opened under local anæsthesia and a large quantity of yellowish fluid escaped. The appendix, which was incarcerated, was reduced after dilating the hernial ring. The sac was resected. Witte in a woman, aged 87 years, reduced an incarcerated appendix and performed a radical operation for the hernia. Wood reports the case of a woman, aged 65 years, who had had a swelling in the right groin for a month. This was almost painless, gave an elastic sensation, was dull to percussion, and irreducible. At the operation the sac was found to contain a considerable quantity of slightly turbid straw-coloured fluid which was forcibly discharged. The appendix was the sole visceral content; it was slightly swollen and œdematous and was returned to the abdominal cavity, and a radical cure for the hernia was performed. Bidwell records the case of a woman, aged 50 years, who for seven years had had a reducible right femoral hernia. For 14 days this had become irreducible but without symptoms of strangulation. The hernia was tense and slightly tender. The sac contained clear fluid and about one and a half inches of apparently normal appendix. The latter was reduced and a radical cure for the hernia was performed. The same surgeon records a second case of a woman, aged 60 years, who had had a right femoral hernia for five weeks; this came down suddenly and was irreducible. About one inch of apparently normal appendix was found in the sac, together with some clear fluid. The appendix was reduced and a radical cure of hernia was performed. Court operated upon a woman, aged 50 years, for a strangulated hernia 24 hours after the commencement of symptoms. At the operation the appendix, which was the only content, was reduced. All these patients recovered apparently without any complications of importance. Satisfactory as these results are, it cannot be said to be the ideal treatment; yet a few of them are taken from recent literature. In a few cases the strangulated portion of the appendix only has been removed and the stump returned into the abdominal cavity. These cases have not come to any further harm apparently. The ideal treatment in a case of strangulation of the appendix is complete removal of the organ. This can be readily effected in the majority of cases through the hernial incision. If it be impossible to reach the cæcal end of the appendix by this route the abdomen should be opened and the appendix removed, taking the usual care to guard the peritoneum from infection which may occur by dragging the appendix across it.

The notes of my three cases are briefly the following:—

CASE 1.—The patient was a female, aged 42 years, who about a year ago collided with a small cart and said that she then strained herself. She experienced immediately pain in the right iliac fossa and the right groin. A few hours later she noticed that a small swelling had formed in the right groin. She consulted a medical man who advised a truss and this effectually kept the hernia back. The truss was only worn irregularly and the hernia would occasionally come down, but was always of small size and caused no inconvenience. The history of the present illness is as follows. The hernia suddenly came down associated with pain and could not be reduced by the patient; there was no vomiting. The swelling increased in size; the pain persisted and was also experienced in the lower abdomen, especially the right iliac fossa. The temperature was normal or subnormal; the pulse was from 80 to 100 per minute. The bowels were confined but opened once after an enema; flatus was passed. Taxis was unsuccessful. The abdomen became a little swollen. On admission on the fourth day of her illness the patient did not appear to be in great pain, although she was suffering from colicky pain in the lower abdomen. The temperature was 98·4° F. and the pulse was 92. The abdomen was slightly distended; there was no tenderness. In the right groin was a swelling without impulse and somewhat diffused on account of the œdema of the skin and

subcutaneous tissue. Strangulated femoral hernia probably containing omentum only was diagnosed.

Operation was performed on the fourth day of the illness. The tissues over the sac were œdematous; the sac contained some quantity of fluid, slightly turbid and having the odour associated with the bacillus coli. In the sac was the appendix, free from adhesions and of a deep bluish-black colour, and the meso-appendix of a similar colour, much swollen and very rich in fat. After dividing the tissues around the neck of the sac and dilating the ring it was impossible to draw the whole appendix down. An incision in the right iliac fossa was made, the muscles were split, the peritoneum was guarded, and the appendix was drawn through and removed. The appendix, three and a half inches long, was strangulated close to its origin. The cæcum was normally placed and had not a mesentery. The hernial sac was removed and the ring was closed. Both wounds were drained in part; healing took place in five weeks.

CASE 2.—The patient was a female, aged 45 years. Her previous history was as follows. For about two years she had had a small right femoral hernia which was easily reducible; this had not caused any inconvenience and she had never worn a truss. The hernia was only present occasionally. The history of the present illness was as follows. The hernia after some strain suddenly came down with pain; she vomited once or twice; the hernia could not be reduced; the pain increased and some was also felt in the lower abdomen. The bowels were not opened; flatus was passed. On admission, 36 hours after onset, the pain was not great but some was present in the hernia and some colic in the abdomen. The temperature was 98° F. and the pulse was 100. There had been no vomiting since the onset. In the right femoral region was a small swelling of the size of a walnut, without impulse, slightly tender, and irreducible, of elastic feel. Strangulated hernia probably containing omentum only was diagnosed.

Operation was performed about 40 hours after the onset of symptoms. There was no œdema around the hernia; the sac contained about two ounces of clear fluid and the appendix was quite free from adhesions; the appendix, one and a half inches long, was deeply congested, as was also the mesentery which was very well developed. After just notching the ligaments the appendix was drawn down with its cæcal insertion and was removed; it showed a distinct furrow impressed upon it by the tissues of the femoral ring. The sac was removed and the ring closed. Some superficial suppuration occurred; otherwise an uneventful recovery ensued. About four-fifths of the appendix was strangulated.

CASE 3.—The patient was a male baby, aged 22 months. The child was not noticed to have been ruptured before; he was seized with sudden pain and a swelling was noticed in the right inguinal region; he had not vomited. On admission 12 hours later the child was somewhat collapsed. The temperature was 98° F. and the pulse was 120. The bowels had not been opened. In the right inguinal region was a rounded elastic swelling just reaching to the scrotum; it was tender, irreducible, and without impulse. A strangulated inguinal hernia was diagnosed without thought of the contents.

At the operation the sac, which was of the partial funicular type, was opened and a small quantity of fluid escaped. The appendix, about one inch long, was the sole content; it was swollen and congested; by a little traction it was easily drawn down with a portion of the cæcum. The appendix was removed and the hernia was cured by removing the sac and closing the canal. The wound healed by first intention.

Harley-street, W.

A NURSING CONFERENCE.—It is proposed to hold in the St. George's Hall, Hanover-square, London, W., on Nov. 22nd, 23rd, and 24th a nursing conference illustrated by exhibits on the subjects of tuberculosis and maternity and mental nursing. On the evening of each of those days papers will be read and discussions held. On the evening of Nov. 23rd, when the subject will be Maternity Nursing, Dr. F. H. Champneys, chairman of the Central Midwives Board, has consented to take the chair; and on the evening of Nov. 24th, when the subject will be Mental Nursing, Dr. R. Jones, President of the Medico-Psychological Association, will be in the chair. The chairman is not yet fixed for Nov. 22nd when the subject will be Tuberculosis. The conference is organised by "The Provisional Committee of the National Council of Nurses."

THE DETECTION OF SUGAR IN URINE AND ITS SIGNIFICANCE IN CONNEXION WITH LIFE ASSURANCE.

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THE true significance of the presence of small quantities of sugar in urine is one which has been repeatedly debated without definite conclusions being finally accepted by physicians and physiologists. The problem is intimately bound up with the question as to whether traces of sugar can be present in normal urine. Much controversy has taken place with regard to this latter question since Brücke[1] stated definitely that all normal urine contained sugar. Brücke's statement has been supported among others by Bence Jones,[2] Tuchen,[3] Abeles,[4] Meissner and Babo,[5] Udranszky,[6] Wedenski,[7] Molisch[8] (whose evidence is doubtful because other substances which may be present in urine give similar reactions with the reagents—alpha-naphthol and thymol—used by him), Luther,[9] Roos[10]; and more especially Allen,[11] Baisch,[12] and Pavy[13] have offered strong confirmatory evidence, with which Halliburton[14] agrees. There have been many observers, however, who have either stated that no sugar is present, or have questioned its presence in normal urine, among whom Friedländer,[15] Maly,[16] Seegen,[17] Leuken,[18] Kulz,[19] Sir G. Johnson,[19] and G. Stillingfleet Johnson[20] may be mentioned.

As a result of a careful review of the whole field of argument we have been led to the conclusion that a small quantity of grape sugar—or a body giving identical reactions—is probably an almost constant constituent of normal urine. We think that the balance of evidence indicates that such small quantity can readily be demonstrated to be present by the action of phenylhydrazine or of alkaline safranin solution on urine. It is not impossible also that traces of glycuronic acid may be met with in certain cases.

Our reasons for arriving at the above conclusions among others are detailed in the following paper. We were led to consider the matter from the point of view of life insurance, with special reference to the manner in which Fehling's test should be carried out and the quantity of sugar which should be considered pathological, but we found that before definite conclusions could be reached the whole problem must be considered. We take it for granted that in medical examinations in connexion with life insurance it must be accepted as an axiom that the usual chemical tests should be applied to the urine in every instance.

The results of our experiments and the deductions from them may conveniently be summarised in the following order: I. The copper test as applied by Fehling. II.

[1] Wiener Akademische Sitzungsberichte, vol. xxix., p. 346.
[2] Quarterly Journal of the Chemical Society, vol. xiv., p. 22.
[3] Virchow's Archiv, vol. xxvii., p. 28.
[4] Centralblatt für die Medicinischen Wissenschaften, 1879, Nos. 5, 12, and 22.
[5] Zeitschrift für Rationelle Medicin (3), vol. ii.
[6] Zeitschrift für Physiologische Chemie, vol. ii., p. 537; vol. xii., p. 33.
[7] Ibid., vol. xiii., p. 122.
[8] Monatsschrift der Chemie, vol. vii., pp. 198-209.
[9] Chemisches Centralblatt, 1891, vol. ii., p. 90.
[10] Zeitschrift für Physiologische Chemie, vol. xv., p. 513.
[11] THE LANCET, July 28th, 1894, p. 212; Chemistry of Urine, pp. 42-90.
[12] Zeitschrift für Physiologische Chemie, vol. xix., pp. 339-68; vol. xx., pp. 249-52.
[13] Guy's Hospital Reports, vol. xxi., p. 413; Physiology of the Carbohydrates, 1894; Carbohydrate Metabolism and Diabetes, 1906.
[14] Chemical Physiology and Pathology, THE LANCET, Feb. 9th, 1895, p. 372.
[15] Archiv der Heilkunde, vol. vi., p. 97.
[16] Wiener Akademische Sitzungsberichte, vol lxiii., p. 2.
[17] Ibid., vol. lxiv., p. 2; Centralblatt für die Medicinischen Wissenschaften, 1886, p. 44.
[18] Apoth. Zeit., vol. i., p. 246.
[19] Pflüger's Archiv, vol. xiii., p. 269.
[20] THE LANCET, July 7th, 1894, p. 10 et seq., and Jan. 12th, 1895, p. 87 et seq.; Transactions of the Pharmaceutical Journal, 1895 (3), 25, pp. 603-05.
[21] Proceedings of the Royal Society, vol. xliii., p. 493; Transactions of the Royal Medical and Chirurgical Society, vol. lxxvi.

Pavy's modification of the copper test. III. The safranin test. IV. The phenylhydrazine test. V. The fermentation test. VI. The alkaline picrate test. VII. Methylene blue and other tests. VIII. The presence of sugar in normal urine, the possible occurrence of glycuronic acid, pentose, lactose, &c., being taken into consideration. IX. Conclusions.

I.—FEHLING'S TEST.

It has long been taken into consideration by chemists that to test for sugar in urine by Fehling's solution may lead to doubtful or incorrect deductions. If the solution turns green or yellow with formation of a small green or yellowish precipitate on standing it has until recently been generally held that the common reducing substances present in normal urine—namely, creatinine, creatine, mucin, uric acid, and urates—might under certain conditions be quite sufficient to explain the phenomena observed. This is true only of the uric acid and urates. Creatinine, creatine, and mucin do not cause precipitates to form, but rather retard their formation. Even if a considerable precipitate comes down it has been recognised that bodies like glycuronic acid may be the reducing substances, as in exceptional circumstances they may be present in quantity in normal urine as noted by Ashdown.[22]

As many life assurance examiners proceed by quite different methods in the use of Fehling's test, some adding only a few drops of urine to hot Fehling's solution, others adding an equal quantity, and others again diluting the Fehling's solution, it occurred to us that a complete study of the test might lead to definite conclusions being formulated as to the exact method in which the test should be carried out and also as regards the significance to be placed upon the phenomena observed. Our experiments may conveniently be summarised in the following order. 1. Experiments made to find out the most suitable proportions of Fehling's solution and urine which should be used. 2. Experiments to determine the minimum quantity of added sugar which could be readily detected in normal urine, dilute and concentrated. 3. Experiments carried out to determine the effect on Fehling's solution of different quantities of grape sugar in pure water and in urine at different temperatures. 4. Determination of the effect of altering the strength of Fehling's solution. 5. Experiments to determine the disturbing effect of (*a*) creatinine, (*b*) creatine, (*c*) urates, (*d*) mucin, and other substances which might be present in normal urine.

1. *The determination of the most suitable relative proportions of Fehling's solution and of urine.*—Two test experiments were carried out with normal urine, which gave a negative reaction with Fehling's solution before the addition of sugar.

Test Experiment No. 1.—Urine of specific gravity 1020 (water, 1000). Safranin reaction indicated the presence of 0·1 per cent. of a substance or substances reacting identically with sugar after testing as explained below in considering the safranin test and 0·25 per cent. of grape sugar was added. The total quantity of grape sugar present was therefore estimated as (approximately) 0·35 per cent. The method of procedure consisted in bringing just to the boiling point the Fehling's solution and the urine in separate test-tubes and then mixing and this method was followed in succeeding experiments summarised in Tables I. to XIII., after which addition of reagent and boiling for a few seconds was employed. This was found to be more convenient and similar in results.

TABLE I.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2	0·5	No precipitate in one hour. Very faint red precipitate in ten hours.
2	1·0	A greenish precipitate in 55 seconds.*
2	1·0	A greenish precipitate in 55 seconds.*
2	1·5	A green precipitate in 30 seconds. Solution orange.
2	2·0	A green precipitate in 20 seconds.
2	2·5	The mixture turned green in 20 seconds and then rapidly orange. Slow precipitation.
2	3·0	Turned orange in 12 seconds. Faintly opalescent and slight white precipitate.
2	3·5	In 12 seconds the solution turned orange colour and faint. White precipitate formed.
2	4·0	In 12 seconds the solution turned orange colour and faint precipitate formed which in three minutes turned brownish and then brownish-black.
2	5·0	In ten seconds the solution turned to a deep orange colour and a faint flocculent precipitate formed; in one minute the solution turned brownish and in five minutes black.
2	10·0	Ditto.

* Duplicate experiment.

[22] Brit. Med. Jour., vol. i., 1890, p. 169.

It might be argued that the above results would not be sufficient to indicate the presence of sugar in any of the tests but from experience we can say that the green precipitates formed within a minutewhen 1·5 and 2·0 cubic centimetres respectively of urine were used are generally conclusive as regards the presence of grape sugar or of bodies like glycuronic acid. The latter bodies may be taken as being out of the question in the above case. Large quantities of urates might give a similar reaction but not so readily.

Test experiment No. 2.—Urine of specific gravity 1012. Safranin reaction indicated the presence of 0·05 per cent. of sugar and 0·25 per cent. of grape sugar was added. The total quantity of grape sugar present was therefore 0·3 per cent. approximately.

TABLE II.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2	0·5	A very faint reddish precipitate formed in six minutes.
2	1·0	In 40 seconds a green precipitate formed which rapidly turned yellow.
2	1·5	In 30 seconds a green precipitate formed which rapidly turned yellow.
2	2·0	In 15 seconds a thick yellow precipitate formed.
2	2·5	In 10 seconds a thick yellow precipitate formed.
2	3·0	Ditto.
2	3·5	In 14 seconds the mixture turned yellowish and then the precipitate slowly separated.
2	4·0	In 17 seconds an orange precipitate formed slowly.
2	5·0	In 13 seconds the liquid turned orange and faint, flocculent whitish precipitates formed, obviously not cuprous oxide.
2	10·0	In 18 seconds the solution turned orange and then slowly a brownish-black precipitate formed.

As the relative quantity of urine used in the test had evidently an important influence, probably because of the cumulative action of the inhibiting substances present, an attempt was made to test the effect of concentration of the urine. A portion of the above sample (specific gravity 1012) was evaporated to half its bulk without the addition of sugar, so that its specific gravity became 1024 and the quantity of sugar present would become 0·1 per cent. A quantity of sugar equivalent to 0·25 per cent. was added, so that the total quantity present was 0·35 per cent.

TABLE III.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2	1·0	In one minute and 40 seconds a greenish precipitate began to form.
2	2·0	In 50 seconds a greenish precipitate slowly formed.*
2	2·0	In 55 seconds a greenish precipitate slowly formed.*
2	5·0	In 15 seconds the solution turned slowly reddish-brown in colour and then a faint precipitate formed.

* Duplicate experiment.

The effect of concentration when approximately the same proportions of sugar are present will be seen to be obviously considerable. The yellowish precipitate formed in 15 seconds in the case of urine, specific gravity 1012, containing 0·3 per cent. of sugar (Table II.), has been altered to a greenish

precipitate formed in from 50 to 55 seconds, when the specific gravity has been changed to 1024 and the percentage of sugar increased to 0·35 per cent.

From the foregoing experiments and also from others there seems to be no doubt that equal quantities of Fehling's solution and urine usually give satisfactory results. A smaller quantity of urine is distinctly disadvantageous, and although there would with samples of specific gravity under 1020 be no objection to using a little more urine than Fehling's solution a large quantity should be avoided as the solution merely turns yellow and no precipitate of reduced copper comes down for some time. The change of colour in this latter case is due primarily to the presence of kreatinin as indicated hereafter. On the other hand, a relatively small quantity of urine as compared with Fehling's solution used is correspondingly slow in giving any reaction worth consideration and we may therefore conclude that for all practical purposes equal quantities of urine and Fehling's solution are the most convenient for general use if the specific gravity be not greater than 1020. If the concentration is greater it is advisable to increase the quantity of Fehling's solution relative to urine as indicated below or to dilute the urine until its specific gravity becomes from 1012 to 1015.

In connexion with the above experiments one carried out with glycuronic acid dissolved in urine is worth giving in detail. From the remarkable case recorded by Ashdown[23] it seems probable that glycuronic acid, although it gives a similar reaction with Fehling's solution to glucose, has not the pathological significance of that substance, but may, although rarely, be present in urine in quantity. In connexion with life assurance tests the occurrence of glycuronic acid is particularly confusing, and we have carried out a number of comparative reactions with glycuronic acid and grape sugar to see whether some difference could not be found in the methods and conditions of precipitation required. Our results have been unsatisfactory, except in so far as we have confirmed to a certain extent the results of Hirschl[24] as regards the difference in the osazones obtainable from the two substances as mentioned later and the fact that glycuronic acid does not ferment with yeast. The glycuronic acid used for our experiments was prepared from the pigment Indian yellow by the process recommended by Allen.[25] A quantity of glycuronic anhydride corresponding to approximately 0·2 per cent. of glycuronic acid was dissolved in the urine of specific gravity 1025, used in Experiment 1. As this urine contained 0·1 per cent. of grape sugar according to the safranin test, one might say that if glucose and glycuronic acid were exactly equivalent to each other the urine contained 0·3 per cent. of a mixture equivalent to grape sugar. The results obtained were as follows :—

TABLE IV.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2·0	0·5	A very faint precipitate in 30 minutes.
2·0	1·0	A greenish precipitate in six minutes.
2·0	1·5	A greenish precipitate in one and one-third minutes.
2·0	2·0	A green precipitate in one minute.
2·0	2·5	A green precipitate in 30 seconds.
2·0	3·0	In 40 seconds the solution turned orange.
2·0	4·0	In 15 seconds the precipitate turned orange (faint flocculent precipitate).
2·0	5·0	Ditto.
2·0	10·0	Ditto (black after some time).

From the above results it may be concluded that the effects of glycuronic acid and glucose in urine on Fehling's solution are similar.

2. *Experiments to determine the minimum quantity of added sugar which could be readily detected in normal urine, dilute and concentrated.*—As preliminary investigation indicated that the difficulty of detecting traces of sugar increased with concentration a few experiments were carried out with concentrated urine to which known quantities of sugar were added.

Series 1.—Urine of specific gravity 1045, obtained by evaporation of a specimen of specific gravity 1015 in which originally 0·1 per cent. of added sugar could be readily detected.

A. 1 per cent. of sugar was added and the safranin test indicated previously the presence of 0·2 per cent., so that the total quantity present was 1·2 per cent.

As a preliminary experiment in which equal quantities of Fehling's solution and urine were used merely gave an orange solution which on standing gave a nearly black precipitate the quantities of Fehling's solution and urine were modified, with the following results :—

TABLE V.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result after heating the mixture to boiling point and allowing it to cool.
2	2	The solution turned orange in a few seconds, a faint precipitate slowly turning nearly black.
2	1	A thick orange precipitate formed in a few seconds.
3	1	A deep orange precipitate rapidly formed.
4	1	Ditto.

There is obviously no difficulty in detecting 1 per cent. of added sugar in concentrated urine provided that more Fehling's solution is used than urine. In this case three volumes of Fehling's solution to one volume of urine seemed to give the most satisfactory precipitate which would correspond with equal volumes of Fehling's solution and the urine before concentration (specific gravity 1015).

B. The quantity of sugar added was 0·5 per cent. and this with the 0·2 per cent. indicated by safranin would give a total of 0·7 per cent. sugar.

TABLE V. A.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result on heating the mixture to boiling point.
2	4	The solution turned a deep orange, opalescent, and a black precipitate gradually formed.
2	2	An orange solution and faint precipitate.*
2	1	A yellow precipitate.
3	1	A green precipitate turning yellow.

* This source of error has been investigated and explained by Eury,[26] who shows that the reaction depends upon soluble compounds of cuprous oxide with creatinine and allied substances being formed. Glacom[27] stated this in 1884.

C. The quantity of sugar added was 0·25 per cent., which with the quantity originally present as indicated by safranin would make a total of 0·45 per cent.

TABLE V. B.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result after boiling the mixture.
2	4	The solution turned a deep orange in a few seconds and then slowly black.
2	2	A yellowish precipitate formed slowly.
2	1	A greenish precipitate in 50 seconds, which became yellow on standing.
3	1	A bluish precipitate in one and a half minutes; became yellowish on standing.

D. The quantity of added sugar was 0·1 per cent., which with the quantity originally present gives a total of 0·3 per cent.

[23] Loc. cit.
[24] Zeitschrift für Physiologische Chemie, vol. xiv., p. 377.
[25] Chemistry of Urine, pp. 38 and 39.
[26] Bulletin de Société Chimique, 1900, vol. iii., 23, 41–44.
[27] Chemisches Centralblatt, 1884, 185.

TABLE V. c.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result after boiling.
2	4	An orange solution and precipitate on standing over night.
2	2	A faint flocculent white precipitate and on standing a green precipitate.
3	1	No precipitate at first, but an orange precipitate on standing.

Several other experiments in which 0·1 per cent. of sugar was added to concentrated urine (1035 to 1045 specific gravity), which had contained from 0·1 to 0·2 per cent. of sugar originally, showed that a green precipitate was almost invariably obtained in from two to four minutes if two cubic centimetres of urine and from 3·5 to 4 cubic centimetres of Fehling's solution were used. It is worth noting that in some cases where 0·1 per cent. of sugar was present originally, after concentration so that the quantity became approximately 0·2 per cent. and then boiling approximately an equal volume with Fehling's solution a slight greenish precipitate might be thrown down, especially on standing. This might be due partly at least to the urates present.

Taking into account the results of the above experiments we have come to the conclusion that while equal volumes of Fehling's solution and urine give satisfactory results if the urine has a specific gravity under 1020, and may be regarded as standard quantities, it is advisable to increase the quantity of Fehling's solution used by approximately 25 per cent. of its standard volume for each rise of specific gravity of five parts in 1000. The most convenient relative quantities of Fehling's solution and urine for concentrated specimens would be as follows (Table VI.).

TABLE VI.

Specific gravity of urine.	Urine in cubic centimetres.	Fehling's solution in cubic centimetres.
Up to 1020	2	2·0
1020 to 1025	2	2·5
1025 to 1030	2	3·0
1030 to 1035	2	3·5
1035 to 1040	2	4·0
1040 to 1045	2	4·5

An equally efficacious plan is to dilute the urine until its specific gravity is approximately from 1012 to 1015.

3. *Experiments carried out to determine the effect on Fehling's solution of different quantities of grape sugar in pure water and in urine at different temperatures.*—It was thought that perhaps the inhibiting substances present in urine might not have a serious effect if the urine and Fehling's solution were just brought to the boiling point and then mixed, or were at a lower temperature, say from 80° C. to 90° C. The range of temperature through which any kind of precipitate formed seemed also worth while determining. Corresponding experiments were carried out with pure glucose dissolved in distilled water and with a sample of normal urine containing approximately the same quantity of sugar. The method of carrying out these experiments was as follows. Four cubic centimetres of Fehling's solution were measured into a specially constructed tube of about a half-inch bore, provided with a ground-glass stopper at the bottom, which was connected with a rod passing up the centre of the tube. This rod served as a handle. The bulb of a delicate thermometer was then placed in the Fehling's solution, which was supported in a beaker of water by a circlet of copper wire provided with hooks attached to the top of the tube. (See Diagram.) Four cubic centimetres of sugar solution, or of urine containing sugar, were placed in a wide test tube closed by cottonwool, supported in the same beaker. The water was heated until the thermometers were approximately 1° C. above the temperature required. The flame being then slightly lowered, the solutions were allowed to cool to the proper temperature and maintained at that temperature for a few minutes. The tube containing Fehling's solution was then rapidly placed inside the wider tube and by pulling up the plug stopper the two liquids could be mixed at the exact temperature required. The following diagram shows the apparatus in position ready for mixing.

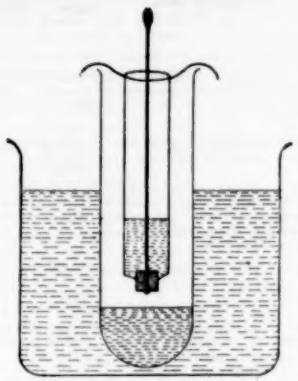

TABLE VII.—*Results with 1 per cent. Sugar Solutions.*

Temperature (Centigrade).	1 per cent. solution of grape sugar in water.	Urine (specific gravity 1019) containing 1 per cent. of added sugar. This with the 0·1 per cent. indicated by safranin would give a total of 1·1 per cent.
Boiled and mixed (93–94°).	Instantaneous red precipitate.	Complete precipitation in from three to four seconds. Red precipitate. Orange solution.
95°	Ditto.	—
90°	Ditto.	Precipitation complete in ten seconds. Orange solution.
85°	Precipitation complete in from three to four seconds.	—
80°	Precipitation complete in six seconds. Brown, but turned bright red in 20 seconds.	In 18 seconds a greenish precipitate which in 45 seconds had changed to deep orange.
75°	Precipitation started immediately. Complete in 11 seconds; turned deep red in 30 seconds.	In 31 seconds a greenish precipitate formed which in one minute changed to deep orange.
70°	Precipitation started in seven seconds. Brownish-red precipitate slowly separated, turning bright red in a few minutes.	In 50 seconds a greenish precipitate formed which turned slowly brown.
65°	Began to precipitate in ten seconds; deep red in five minutes. *So far complete discharge of the blue colour of Fehling's solution.*	In one minute and 35 seconds a greenish precipitate formed which slowly turned brown.
60°	Precipitation started in 21 seconds; in five minutes chocolate brown; in ten minutes red. Slight blue tint remained in solution.	In three and one-third minutes a greenish precipitate separated.
55°	In 35 seconds a brownish precipitate formed.	In five and a quarter minutes a greenish precipitate.
50°	In one minute a faint brownish tint; in five minutes very faint; in ten minutes a red film over the bottom.	No precipitate in 20 minutes beyond a faint gelatinous one (cuprous urate?).
45°	In two minutes a faint precipitate; in 15 minutes a distinct red precipitate at the bottom.	—
30°	No precipitate in 20 minutes; a faint trace in 30 minutes.	A faint whitish gelatinous precipitate in 15 minutes (might be cuprous urate).
12°	Within ten hours a faint red precipitate.	A faint gelatinous precipitate formed slowly.

TABLE VIII.—*Results with 0·5 per cent. Sugar Solutions.*

Temperature (Centigrade).	Solution of grape sugar in water 0·5 per cent.	Urine (specific gravity 1019) containing 0·5 per cent. of added sugar. Safranin test indicates 0·1 per cent. to be originally present, therefore total percentage is 0·6 per cent.
Boiled and mixed (93–94°).	Precipitation complete in from three to four seconds; red.	Precipitation started in six seconds. Yellow precipitate. Solution orange.
90°	Precipitation complete in four seconds.	In ten seconds a yellowish precipitate. Solution orange.
80°	In from five to six seconds a dark brown precipitate began to form. In one minute deep red. Solution faint blue.	In 37 seconds a greenish precipitate formed; turned yellow. Solution orange.
75°	—	In one and a quarter minutes a green precipitate formed which changed to yellow.
70°	In 14 seconds a grey precipitate formed which changed first to dark brown and then to red.	In one minute and 35 seconds a greenish precipitate formed.
65°	In 20 seconds a faint grey precipitate began to form; ultimately red.	In three minutes a greenish precipitate began to form.
60°	In 31 seconds a faint grey precipitate began to form; ultimately red.	In nine and a half minutes a faint greenish precipitate formed.
55°	In 56 seconds a faint precipitate formed.	In 22½ minutes a greenish precipitate began to form.
50°	Precipitation started in one minute but was still faint in five minutes.	—
45°	A very faint precipitate was visible in ten minutes; distinct precipitate in 15 minutes.	—
30°	No visible precipitate in 15 minutes but distinct precipitate in 20 minutes.	—
12°	Within two hours a distinct but faint red film.	A faint bluish precipitate in one and a half hours.

TABLE IX.—*Results with 0·25 per cent. Sugar Solutions.*

Temperature (Centigrade).	Solution of grape sugar in water, 0·25 per cent.	Urine containing 0·25 per cent. of added sugar + 0·1 per cent. originally present. Total, 0·35 per cent.
Boiled and mixed.	A reddish precipitate in five seconds.	In 20 seconds a greenish precipitate, changing to yellow.
90°	A greyish precipitate in five seconds; then a brownish red.	In 25 seconds a greenish precipitate, changing to yellow.
80°	In nine seconds a greyish precipitate formed; slowly turned reddish.	In one minute and 35 seconds a greenish precipitate.
75°	In 12 seconds a greyish precipitate formed; slowly turned reddish.	In one minute and 45 seconds a greenish precipitate.
70°	A faint precipitate formed in 20 seconds, slowly turning reddish.	In six minutes a faint precipitate.
65°	In 28 seconds a faint precipitate.	No precipitate in 40 minutes. A faint greenish precipitate in 45 minutes.
60°	In one minute a faint greyish precipitate.	No precipitate in one hour.
55°	In one and a half minutes a faint greyish precipitate.	—
50°	In three minutes a faint greyish precipitate.	An opalescent precipitate in nine minutes, which cleared on warming.
45°	In 15 minutes a faint trace of a red precipitate; in 20 minutes distinct.	—
30°	A faint precipitate within ten hours.	—
12°	No precipitate in one hour; a faint precipitate within ten hours.	—

TABLE X.—*Results with 0·1 per cent. Sugar Solutions.*

Temperature (Centigrade).	Solution of grape sugar in water 0·1 per cent.	Urine containing 0·1 per cent. of added sugar + 0·1 per cent. originally present. Total, 0·2 per cent.
Boiled and mixed (92–93°).	In three seconds turned grey and then a reddish-brown precipitate formed.	In one and one-third minutes a bluish-green precipitate; in two minutes a thick precipitate.*
90°	In nine seconds a greyish precipitate; turned brown and then red.	In one and one-third minutes a bluish-green precipitate; in two minutes a thick precipitate.
80°	In 15 seconds a greyish precipitate; turned brown and then red.	The solution slowly turned green and in eight minutes a faint greenish-blue precipitate began to form.
75°	In 20 seconds, ditto	—
70°	In 40 seconds, ditto.	No precipitate in 20 minutes.
65°	In 70 seconds, ditto.	—
60°	In two minutes faint turbidity.	—
55°	In 15 minutes a very faint precipitate.	—
50°	A faint precipitate in 20 minutes; distinct in 30 minutes.	—
45°	A very faint film in 30 minutes.	—
30°	No precipitate in three and a half hours. A faint red film within 12 hours.	—
12°	No precipitate in four hours. Few red specks in 12 hours.	—

* *Note.*—The above results are typical. 0·1 per cent. of added sugar gave a greenish precipitate readily in under two minutes as a rule.

An examination of the above series of comparative tables shows that temperature has an important effect on the rate of precipitation and upon the colour and quantity of the substances precipitated. In aqueous solution quantities of sugar much under 0·1 per cent. could readily be detected, but in urine, as the above results show, substances are

TABLE XI.

Temperature (Centigrade.)	1 per cent. grape sugar solution in distilled water and an equal volume of Fehling's solution.	1 per cent. of grape sugar added to urine of specific gravity 1022, in which safranin test indicated 0·1 per cent. of sugar. Total quantity of sugar 1·1 per cent.
100°	In two seconds precipitation was complete; brick-red at first, brown on standing. Solution yellow.	In a few seconds the solution turned a deep orange and a faint white precipitate separated.
90°	Ditto.	Ditto.
80°	In two seconds a nearly white precipitate; deep red in ten seconds; finally orange.	In 20 seconds a greyish precipitate seemed to form, but this quickly vanished, the solution becoming orange.
70°	A whitish precipitate in four seconds, which changed to orange-red on standing.	The solution gave a faint white precipitate at once and in one minute it changed to orange.
65°	Whitish precipitate in seven seconds, which changed gradually to red.	
60°	In 12 seconds ditto.	
55°	In 20 seconds a faint white precipitate; in four minutes an orange-red.	(*Note.*—On boiling two cubic centimetres of the above urine with two cubic centimetres of Fehling's solution for a few minutes a deep brownish precipitate formed. This precipitate dissolved in distilled water after filtration, except a faint pink residue.)
50°	In 27 seconds a faint white precipitate which changed to red; a faint blue tint remained in solution.	
45°	In 50 seconds a yellowish precipitate came down slowly; slowly changed to red.	
30°	A faint opalescence in five minutes. In one and a half hours a faint red precipitate.	
12°	In one hour a very faint whitish precipitate.	

present which hinder precipitation and alter the nature of the substances precipitated, so that, for example, 0·1 per cent. of added sugar causes a green precipitate to be formed instead of a red one. This green precipitate may slowly turn yellow on standing for a day or more.

4. *Experiments carried out to determine whether an alteration of strength of Fehling's solution might not be advisable under certain conditions.*—Inasmuch as certain life insurance companies recommend that Fehling's solution should be diluted to half before use these experiments were more especially desirable.

(1) Comparison experiment with half-strength Fehling's solution.

The indications in Table XI. are very unsatisfactory so far as the detection of sugar in urine is concerned. This was to be expected from the conclusions arrived at from the preceding set of experiments, which indicated clearly that with a urine of high specific gravity the strength of the Fehling's solution should be increased rather than diminished. On boiling four cubic centimetres of Fehling's solution with one cubic centimetre of the above urine containing 1 per cent. of added sugar a thick yellowish precipitate formed immediately.

An attempt was made to find out whether any disturbing effect could be perceived in the above case in using the safranin test. An indication of the presence of 1·1 per cent. of sugar could, however, readily be confirmed by operating as described below.

(2) A few experiments were carried out with one-quarter strength Fehling's solution.

TABLE XII.

Temperature (Centigrade).	1 per cent. grape sugar solution and an equal volume of quarter-strength Fehling's solution.	1 per cent. grape sugar added to urine (specific gravity 1022) containing 0·1 per cent. sugar as indicated by safranin test. Total quantity of sugar 1·1 per cent.
100°	A red precipitate formed at once.	The mixture turned yellow in a few seconds. A faint white precipitate.
90°	Ditto.	Ditto.
80°	A red precipitate separated in three seconds.	
70°	A whitish precipitate separated in 12 seconds, which turned red within one minute.	(*Note.*—On boiling two cubic centimetres of urine and two cubic centimetres of Fehling's solution for two minutes a brownish precipitate formed, nearly entirely soluble in distilled water.)
60°	A whitish precipitate in 20 seconds; turned red on standing.	
20°	A red precipitate on standing overnight. This steadily increased.	

(3) The following experiments were carried out with a solution prepared by dissolving double the usual quantity of copper sulphate in the same quantity of alkaline tartrate.

TABLE XIII.

Temperature (Centigrade).	One-tenth per cent. sugar solution and an equal volume of Fehling's solution, containing double the usual proportion of copper sulphate.	One-tenth per cent. sugar dissolved in urine (specific gravity 1020) and equal volumes of similar Fehling's solution.
100°	Immediately on boiling a reddish precipitate formed.	A thick green precipitate in about one minute.
90°	Precipitation started in three seconds.	A precipitate began to form in two and a half minutes and eventually was of a thick green colour.
80°	Precipitation started in nine seconds.	In 15 minutes there was faint haziness but no definite precipitation.
70°	Precipitate started forming in 35 seconds; very slow.	—
60°	A very faint turbidity in two minutes; a steady increase. A yellow precipitate on standing overnight.	—
20°	Considerable red precipitate on standing overnight.	Nearly white precipitate on standing overnight.

The above results seem to offer small advantages over those detailed in Table X., but it was found that the solution on exposure to light slowly gave a red precipitate. With regard to alteration of the quantity of sodium hydroxide used in the preparation of Fehling's solution the researches of Worm, Müller, and Hagen[28] have already decided that such solutions are inferior to those generally employed.

5. A set of experiments were next carried out in order to detect the effect of (1) creatinine, (2) creatine, (3) uric acid and urates, (4) mucin, and (5) substances which might be present in small quantity in urine, such as theobromine and theine, upon the precipitation of copper compounds by boiling Fehling's solution with solutions of grape sugar in distilled water and in urine. In the following sets of experiments an equal volume of Fehling's solution was added and the mixture was boiled for a few seconds. These conditions were selected as being similar to those generally followed in carrying out Fehling's test. The effect of prolonged boiling is also considered.

(1) *Creatinine* ($C_4H_7N_3O$).—In connexion with the following experiments it might be kept in view that Voit states that creatinine may be present in urine to the extent of three milligrammes per cubic centimetre. This quantity would not normally be present throughout the whole day, otherwise the daily excretion of creatinine would be from four to five grammes, whereas Folin,[29] from recent work on the basis of Voit's normal diet, gives 1·55 grammes per day as an average. Bunge gives from 0·96 to 2·16 grammes per day, depending on diet, and Stillingfleet Johnson[30] from 1·5 to 2 grammes per day. The old value given by Parkes[31]—viz., 0·91 gramme per day—is certainly too small, and from the observed inhibiting effect of normal urine in preventing precipitation we would be inclined to agree with Folin's or Johnson's values.

The following is a summary of the results obtained on boiling solutions containing a certain weight of creatinine with an equal volume of Fehling's solution for a few seconds. A consideration of the results suggests interesting conclusions. Ten milligrammes of creatinine per cubic centimetre completely prevents the precipitation of 0·25 per cent. of sugar, but not of 0·4 per cent., while nearly double the maximum amount present in urine—namely, five milligrammes per cubic centimetre—cannot inhibit the precipitation of 0·25 per cent., but effectually prevents 0·1 per cent. from causing the formation of a precipitate under the conditions given. The maximum amount which would normally be present in urine, from two to three milligrammes per cubic centimetre, can still inhibit the formation of a precipitate when 0·1 per cent. of sugar is present, but 0·25 per cent. readily causes a precipitate to form. Experiments showed that one milligramme of creatinine per cubic centimetre in distilled water could not inhibit 0·1 per cent. of sugar from causing a precipitate, a greenish precipitate

TABLE XIV.

(a) Proportion of creatinine present, 10 milligrammes or more per cubic centimetre.

Percentage of sugar present.	Aqueous solution of 10 milligrammes of creatinine per cubic centimetre.	Urine solution. 10 milligrammes of creatinine per cubic centimetre were added, but the total quantity would be greater.
None added.	Bluish-green on standing. After boiling for three minutes turned yellowish-green but no precipitate formed and on standing for a few days the solution became blue again.	Turned bluish-green but no precipitate formed.
0·25	On boiling for ten seconds changed first to green and then to yellow, but no precipitate formed.	Changed to light green; no precipitate.
0·4	In one minute and five seconds a green precipitate began to separate. This changed to yellow and then orange.	Turned green, and in one minute and five seconds a yellow precipitate formed.
0·5	Turned yellow and in 45 seconds a yellow precipitate formed, which became reddish on standing.	In 40 seconds a yellow precipitate formed. (*Note.*—The presence of uric acid probably aids precipitation in the above cases.)

[28] Pflüger's Archiv für Physiologie, vol. xvi., p. 567.
[29] American Journal of Physiology, 1905.
[30] Loc. cit.
[31] Chemical Physiology and Pathology, Halliburton, 1891, p. 716.

TABLE XIV. A.

(b) Proportion of creatinine added, five milligrammes per cubic centimetre.

Percentage of sugar present.	Aqueous solution.	Solution in urine of specific gravity 1022.
None added.	*No perceptible effect. Solution remained blue.*	Very slight effect. Solution turned greenish-blue.
0·1	No precipitate. Deep greenish-blue solution.	No precipitate. Solution turned greenish-blue.
0·25	The solution turned first green and then yellow and in 50 seconds a green precipitate appeared, which changed to orange.	The solution turned first green and then yellow and in 75 seconds a green precipitate began to separate.
0·4	In 25 seconds a yellowish precipitate formed which turned red within 40 seconds.	In 30 seconds a yellow precipitate.
0·5	In 23 seconds a deep orange precipitate separated.	In 20 seconds a greenish precipitate separated which changed to orange.

TABLE XIV. B.

(c) Weight of creatinine added, 2·5 milligrammes per cubic centimetre.

Percentage of sugar present.	Aqueous solution.	Solution in urine of specific gravity 1022.
None added.	Solution remained blue; no apparent change.	Solution remained blue; no apparent change.
0·1	*No precipitate. The solution remained blue.*	No precipitate. The solution remained blue.
0·25	Turned first green and then yellow and in 30 seconds a greenish precipitate came down, which turned yellow on standing.	Turned green and then yellow, and in 37 seconds a green precipitate came down, which turned yellow on standing.
0·4	In 12 seconds precipitation started; turned reddish within 25 seconds.	In 13 seconds a precipitate began to form.
0·5	In seven seconds a red precipitate began to come down.	In 11 seconds a yellowish precipitate started forming; reddish after a time.

forming within two minutes of boiling, but 0·05 per cent. was inhibited, provided the solution were not boiled for some time. As creatine, mucin, and other substances of less powerful inhibiting action than creatinine are present in urine, one might expect that under ordinary conditions quantities up to 0·1 per cent. of sugar might be present without a precipitate being formed with Fehling's solution unless boiling were prolonged; uric acid probably aids precipitation but not seriously. Now, in Table X. it is shown that as a rule the addition of 0·1 per cent. of sugar to a normal urine causes the formation of a green precipitate within one and a half minutes after boiling with Fehling's solution and in Table V. C indication is given that even in the case of a very concentrated urine of specific gravity 1045 by properly adjusting the quantity of Fehling's solution used, a precipitate can also be obtained after the addition of only 0·1 per cent. of sugar. In the latter case, the quantity of creatinine might considerably exceed three milligrammes per cubic centimetre. It follows logically from these results that very probably normal urine contains some glucose or body of similar reactions but presumably under 0·1 per cent., otherwise the addition of 0·1 per cent. should not cause a precipitate to form. This would readily explain the observed results as regards precipitation. The quantities determined by safranin, too (assuming the reducing substance indicated by safranin to be grape sugar, perhaps along with similar bodies, e.g., isomaltose), namely, 0·1 per cent. for the sample used in Table X. and 0·2 per cent. for the sample used in Table V. C would agree well with the results obtained. In some cases when the specific gravity is low, e.g., 1006, safranin has been found to indicate as little as 0·02 per cent. of reducing substance similar to glucose.

The effect of prolonged boiling.—Many experiments were carried out, of which the following are typical. It occurred to us that the effect of boiling a solution for some time—say, for two or three minutes—as opposed to merely boiling for a few seconds might be most readily studied in connexion with creatinine as inhibiting substance. The following is a summary of results.

TABLE XV.

Percentage of sugar.	Weight of creatinine per cubic centimetre.	Effect of just boiling mixture of two cubic centimetres of Fehling's solution and two cubic centimetres of creatinine and sugar solution.	Effect of prolonged boiling (from two to three minutes).
0·1	5 milligrammes.	No precipitate.	Turned light blue, but no precipitate.
0·1	3 ,,	,,	A green precipitate after boiling for some time.
0·1	2 ,,	No precipitate in two and a half hours.	A green precipitate settled after a few minutes which finally turned orange.
0·1	1 ,,	A green precipitate in 30 seconds which slowly changed to orange.	—
0·05	1 ,,	No precipitate.	A green precipitate settled in a few minutes, finally turning orange.

It is obvious from the above table that the effect of prolonged boiling is advantageous in that it tends gradually to overcome the inhibiting effect of the creatinine. In the case of urine and Fehling's solution, however, boiling for some time is only satisfactory if the proportions of Fehling's solution and urine are regulated approximately as given above, since, if the urine is too concentrated for the proportion of Fehling's solution used only a deep orange solution is obtained or a brownish precipitate separates. In this connexion it must be mentioned, however, as will be pointed out later, that a slight green precipitate from a concentrated urine after prolonged boiling with Fehling's solution when urates are present in quantity (and the safranin test indicates 0·2 sugar or thereby) may be partly due—probably only slightly—to the urates present. It may be concluded, therefore, that boiling for a few minutes with Fehling's solution will detect traces of sugar which otherwise would not cause apparent reduction, but from the point of view of life assurance we are of opinion that such indications cannot be of real value. If when the quantities of Fehling's solution and urine are regulated approximately as described there is no precipitate within five minutes of just boiling the mixture, it may confidently be said that the quantity of sugar present is not of pathological import. There is much less chance of making a mistake as regards urates if one merely boils for a few seconds.

(To be concluded.)

A NEW ASPECT OF THE PATHOLOGY AND TREATMENT OF LEPROSY.

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AT the meeting of the British Association for the Advancement of Science held in Cape Town in August, 1905, I read a paper on Leprosy[1] as I was acquainted with it in Cape Colony. Many of the points which will be brought out in the following paper are less distinctly defined in the article I refer to. My views on the subject, however, have since become more precise and definite. I may be pardoned if I mention the experience which I have had to allow me to form any conclusion on such an intricate subject, one which has puzzled so many previous observers. In the course of visiting Norway I had been over the leper asylums in Bergen, Molde, and Trondjem, and was therefore acquainted with the clinical character of the disease. I, however, looked

[1] THE LANCET, April 28th, 1906, p. 1167.

on patients suffering from leprosy as a kind of medical curiosities. I found, however, in coming out to this country in 1894 as Medical Officer to the Bacteriological Department in Grahamstown that leprosy was endemic in this country and that cases of it were very numerous. I saw several cases of it in the neighbourhood of Grahamstown, and a gentleman whom I knew well had a body servant who was found to be suffering from leprosy to the great consternation of his family. The question has also been investigated by numerous Parliamentary commissions without much further result than the increasing stringency of the Leprosy Repression Acts. In 1896 I was sent by the Government to act as medical officer on Robben Island, where there were at that time about 500 patients suffering from this disease as well as other large establishments consisting of lunatics and convicts. I had previously been medical officer in large asylums in England and so was accustomed to see people deprived of their civil liberties on account of infirmities. But I must admit that I was rather staggered by the condition of things I found on Robben Island amongst the patients suffering from leprosy. The great majority of these people belonged to a very humble station in life indeed. But there were some of the respectable middle class quite intelligent and able to discuss all the affairs of the day. Some of these had apparently not much the matter with them, and had been living there for years, though they were undoubtedly suffering from leprosy in a mild form. Robben Island is a depressing place to live on and the presence of homicidal lunatics in the establishment for the insane there does not tend to cheer matters up. Of course, the lunatic asylums and the leper asylums are kept so far as is possible entirely separate, and I am not aware of any case of communication among the lunatics. At that time all the establishments were under the control of a lay magistrate. Owing to some administrative blunders, not unpardonable in such an extensive and trying establishment, the Government had lost its trust in medical control and the position of the medical officers on the island was therefore a subordinate one. I may here mention that in my work among these patients for seven years from 1896 to 1903 I was much helped by the way the officials concerned devoted themselves to the interests of the patients. The work of the chaplains especially deserves notice. In my day those resident in the island were the Rev. Mr. Watkins, M.A. Oxon., who has now left the island; the Rev. Mr. Engleheart, B.A. Oxon., the present Anglican chaplain there; and the Rev. Lewis Hugo, chaplain to the Dutch Reformed Church on the island. Their devotion to the unfortunate patients was in my opinion deserving of all credit and should have public recognition.

Mr. Jonathan Hutchinson has taken a good deal of interest in Robben Island. He devotes a good many pages to it in the book which he has recently published called "Leprosy and Fish Eating." It gave me very great pleasure in 1902 to have him for a few days as my guest on Robben Island. We indeed did not hit it off on his theory of the cause of leprosy, but I was able to show Mr. Hutchinson as many patients as he could examine during the short time at his disposal. He found that a great number of them had at a certain period of their lives partaken of salt fish—a fact that seemed to give him a good deal of satisfaction, though what bearing it had on the question I failed to see. But we must all agree that the utmost credit is to be given to Mr. Hutchinson for the great interest which he has for many years taken in these unfortunate people.

Dr. Kolle was the one who first directed my attention to the condition of the nose and naso-pharyngeal passages in leprosy. He was brought out to this country to investigate leprosy in 1897 by the Colonial Government, to whom the question has always been a very thorny one. He was specially recommended for the post by Professor Koch. Dr. Kolle was a skilled bacteriologist and a highly competent man, and had his services been retained I have no doubt that he would have been of great use to the Government and have come much more quickly than I have been able to do to some of the conclusions which I will state later. But we all know that in this country the lives of oxen are of more value than those of men and women, and he was detached from his work on Robben Island and sent to investigate rinderpest. Having been of much service in this matter, and feeling that his services were not being properly appreciated, he returned to Berlin. Practically not much has since been done to encourage research on Robben Island.[2]

I kept Dr. Kolle's suggestion in my mind and after some years of working among the patients on Robben Island I found that it afforded a key to some of the most perplexing problems of leprosy. I was for a long time extremely puzzled to account for the marked clinical difference between maculo-anæsthetic leprosy and nodular leprosy, though they were undoubtedly two forms of the same disease. At last it occurred to me that nodular and mixed leprosy were simply maculo-anæsthetic leprosy plus the infiltration and œdema of the subcutaneous tissue in various parts of the body, caused by the active invasion of the bacillus lepræ. In practically all cases of nodular leprosy anæsthesias and leucodermic patches can be found just as in maculo-anæsthetic leprosy. I also noticed that when a nose had fallen in in some cases of nodular or mixed leprosy the type of the disease in the individual seemed to change and he became practically in course of time a maculo-anæsthetic case, the infiltrations being gradually absorbed. I further noticed that some cases of undoubted maculo-anæsthetic leprosy were of an extremely mild character. A patient would have a few anæsthetic patches on his body with, perhaps, a contraction of the small and ring fingers of one of his hands and would otherwise be in perfect health—in which condition he would remain for years. I also found that practically all the active cases of mixed and nodular leprosy suffered from rhinitis and were discharging bacilli with the nasal secretion in great numbers, whereas except in a few of the early cases I found that the maculo-anæsthetic patients had no bacilli in their nasal secretion. The above considerations afforded me what I consider to be a solution of the problem. I think that there can be hardly any doubt that leprosy in its early stages begins as a small ulcer on some part of the extensive nasal mucous membrane. We know quite well from our clinical experience of the disease that leprous ulcers in favourable circumstances tend to heal. There can therefore be little doubt that a person can suffer from a leprous ulcer in the nose that may heal and pass entirely away. This is the explanation of the maculo-anæsthetic cases. They have had nasal ulceration which has passed away, in some cases leaving perhaps a cicatricial shrinking of the nasal septum, but during the time the ulcer existed leucocytes or white connective tissue corpuscles got detached from the ulcerating spot and along with the bacilli which they were attempting to devour were carried by the blood stream and lodged in various situations in the peripheral nerves, where they got entangled, and the bacilli then proceeded to grow, causing pressure on the fine nerve fibrils and consequently setting up nutritive changes in the skin which these axis-cylinders supplied, thus causing the patches of discolouration and anæsthesia.

In the nodular and mixed cases the progress of the disease is quite different. Instead of the nasal ulcer healing up it proceeds to grow apace, causing extensive destruction of the nasal mucous membrane, causing it to swell up and ultimately attacking the nasal bones themselves. We have something to guide us from what we know of other diseases affecting the nose, such as fleshy growths from the nasal mucous membrane, and how if not treated the nose becomes distended and the aspect of the patient altered. Also in the disease called post-nasal adenoids in children, how from their intranasal pressure they cause the face to assume a heavy, puffy, and stupefied appearance. A similar condition takes place in nodular leprosy. The accumulating swelling of the mucous membrane extending into the numerous interstices of the naso-pharyngeal cavity causes the face to assume its characteristic appearance of this clinical variety of the disease, assisted of course by the leprotic infiltration from the festering nasal ulcer. But the festering sore has other consequences. The enormous number of leucocytes which are on the scene trying to overcome the invading bacilli get many of them translated to other parts of the body. They carry with them bacilli which in leprosy seem to have the property, at any rate at some part of their life-history, of growing within the white blood corpuscles and thus propagating the disease through all parts of the body. As in maculo-anæsthetic leprosy, they get entangled in the peripheral nerves and cause anæsthesias and

[2] Dr. J. A. Mitchell, now assistant medical officer of health of the colony, who succeeded Dr. Kolle as bacteriologist to Robben Island, was shortly after his appointment detached for plague work. The post was not filled up.

discolourations of the skin and they also in nodular leprosy form large accumulations in the liver, the spleen, and in certain situations in the subcutaneous tissues throughout the body and the patient becomes at last, if not properly treated, a mass of ulcerating sores.

The course of the disease is, as is well known, extremely protracted and the cases which we see in our asylums are in nearly every instance in a very late stage of the disease, even on admission. The very early stage of the nasal ulceration, naturally not being recognised, is completely overlooked, even by the patients themselves. They think that they are perhaps merely suffering from a protracted nasal catarrh, to which they pay no attention and which they forget all about when the graver symptoms of the disease make their appearance. But at these extremely early stages of the disease these people are sources of infection, and this fact affords a very clear and simple explanation of those mystifying and apparently hopelessly inexplicable cases of leprosy which from time to time occur. You ask one of these patients, "Has he ever been in contact with a person suffering from leprosy?" and he vehemently and perfectly truthfully affirms that he has never been in such contact. But though he did not know it, and though the communicator of the disease did not know it, he has been in contact with a person suffering from the primary early rhinitis of leprosy.

The explanation of the pathology of the disease which I have briefly attempted to sketch above as, in my opinion, affording a true statement of its nature, throws fresh light on the whole subject. It is puzzling to understand how it previously escaped recognition. Its importance will be at once recognised when it is seen that if this view is correct considerable numbers of the maculo-anæsthetic cases in whom the infectious nasal ulceration has disappeared may be allowed to return to their ordinary environment after, of course, a proper and careful examination of their cases. The contractures of fingers or limbs, the sores or ulcers, the necroses of bones from which in advanced cases many of them suffer, are purely due to the nutritive nervous supply of these parts being cut off. Similar conditions occur, as is perfectly well known, in other diseases when the integrity of the nervous channel is affected between the trophic nerve cell and its termination in the motor end organ or tactile corpuscle, as the case may be. This view also affords some degree of hope for the nodular cases. There is no reason why the festering sore which is the real cause of their complaint should not be attacked by curetting and other surgical means and by prolonged antiseptic lavage, so that the nasal cavity can be cleared so far as is possible from the bacilli which are infesting it. I have already mentioned that I noticed that in certain cases of nodular leprosy in which the interior of the nasal cavity had been so devastated that the bacilli had no further ground to grow on, the type of the disease gradually changed and the patient became to all intents and purposes a maculo-anæsthetic case. This view also will give some protective comfort to those who are engaged in the care of these people. Small blame to them if they are often haunted by obsessing fears of themselves falling victims to the disease, but if their early rhinitis is noticed it can be treated and the disease perhaps prevented from further development.

This view brings leprosy, so far as pathology and treatment are concerned, into line with tuberculosis and diphtheria. The organism seems to be a kind of surface growth which takes a very considerable time to get firmly established in the body. We know that the lower animals seem to be practically immune from the attacks of the bacillus lepræ. This would seem to show that it is an organism of an antique type and that the lower animals have become immune in the course of ages. That it is an organism which has great difficulty in establishing itself the records of all hospitals for patients suffering from leprosy clearly show. If it were possible to inoculate it through the skin of the surface of the body no doubt there would be numerous cases of communication in our asylums. Are there not numerous instances when out of a morbid religious impulse monks have done all that they could to inoculate themselves with leprosy and totally failed? This surely clearly shows that the disease in the natural course of events tends rapidly to die out in the body unless reinforced by a continual supply of bacilli, as is the case in nodular leprosy from the extending nasal ulcer.

Another consideration which has an important bearing, in my opinion, on the future treatment of the disease is the discovery by Sir A. E. Wright of the opsonins in the blood, those chemical bodies which contribute to the vitality of the white blood corpuscles and which seem necessary to their power of attacking bacillary invaders. It has been found that in tuberculosis where that disease is making progress these bodies are reduced in quantity and that when they are reinforced the disease can be combated and checked. There seems great reason that experiments should be made to ascertain whether this method could not be called in to assist in combating the attacks of the bacillus lepræ as well as those of the bacillus of tuberculosis. And I think that the Government should have this matter investigated by some scientific man of ripe experience and acknowledged reputation.

At present no systematised effort of research is being made in our asylums. It is only due to the patients themselves that their feeling of self-respect as men and women should be restored by the knowledge that everything that modern medical science can do is being afforded them in their trying seclusion from the society of their fellows. Moreover, if my views are correct, much of the mysterious and unpleasant character of the disease will be eliminated and the feelings of the public towards the sufferers will be less aloof and much more helpful and encouraging. Not only are the patients to be thought of but the medical officers of those large establishments scattered all over the world who are faced with an apparently hopeless problem. If there is a modicum of truth in the views which I have briefly and dimly expressed they will have some definite lines to guide them in the way they should regard and manage the treatment of one of the most puzzling of diseases.

AN ADDITIONAL NOTE ON THE ERYTHEMA OF LEPROSY.

It is well known that in nodular leprosy there is during a considerable period of the disease an erythematous red blush on the face, the hands, and the feet. It is early seen in recognised cases of nodular leprosy, on the forehead, about the root of the nose, and eyebrows, and continues to extend as the infiltration of the face proceeds. On the fingers and hands it also gradually increases as the infiltration of the subcutaneous tissue increases in these parts. The face, the hands, and the feet are those parts naturally unprotected and which are exposed most to variations of temperature, and their vaso-motor systems are therefore most responsive to conditions affecting them. We know that erythemata are very frequent in toxæmic conditions. I was much struck by noticing the course of some cases of erythema probably due to autotoxic intestinal sources (for I could find no other) which affected the face, the hands, and less markedly the feet. The face, particularly about the eyes and forehead, became red, puffy, and swollen. This was also the case with the fingers. And the condition waned and waned for some time, being very obstinate as regards treatment. It, however, ultimately passed off altogether, though in all the cases I observed there were relapses. Now the erythema of leprosy at first affects similar situations long before the nodules make their appearance. It is therefore in all probability due to a toxæmic source. Whence is that source? It can hardly be from the bacilli lepræ themselves. These never cause suppuration. They appear never to cause coagulative necrosis. I have injected extracts of large quantities of bacilli lepræ into animals without apparent effect of any kind. The bacilli appear to form no toxin of any potency whatever and are probably quite inert except as forming mechanical obstructive growths. The leprotic erythema is, in my opinion, derived not from toxins formed from the bacillus lepræ but from toxins produced by the very large number of streptococci, staphylococci, and the numerous other micro-organisms which are naturally associated with the festering sore spreading through the naso-pharyngeal cavity. Thus the swelling of the hands and feet due to the prolonged toxæmic erythema and consequent chronic state of œdema is in reality not due to the toxins of the bacilli lepræ but to those of other associated micro-organisms. Of course, this state of chronic erythema and œdema with the ensuing alterations in the capillary circulation make a concomitant infiltration with bacilli lepræ more effectual. The surgical means which I have pointed out as being so likely to arrest the process in the nasal cavity would also assist in stamping out the nests of coccal organisms which no doubt get into the blood stream in great numbers, causing suppuration in parts weakened by want of trophic support when their nerve fibrils are cut off in various situations by the pressure of cellular growth round emigrant bacilli.

Cape Town.

A METHOD OF TAKING IMPRESSIONS OF THE WEIGHT-BEARING SURFACE OF THE FOOT.

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THE method usually recommended of obtaining impressions of the foot—viz., by standing on a smoked paper—has the disadvantage that for a permanent record the impression requires to be varnished. A method recently advocated by Schüman of Leipsic[1] gets over the difficulty by employing two solutions—one a solution of ferric chloride (half strength B.P. liq.), with which the paper is thinly coated and afterwards dried, and the other a 5 per cent. solution of ferrocyanide of potash. The foot is painted with the ferrocyanide solution and then placed on the paper and a blue impression is left which is permanent and requires no after-treatment. The preparation of the paper, however, is troublesome and it is difficult to get the foot evenly wetted with the ferro-cyanide solution.

FIG. 1.

The impression of normal feet.

FIG. 2.

Showing the result of high-heeled boots.

The method advocated in this paper is that employed in taking impressions of finger-tips for identification purposes. The materials required are a glass slab, say 16 inches by 13 inches, a roller, and a tube of specially prepared printer's ink. A thin film is pressed out on the glass plate by the roller, and after standing on this the patient transfers his blackened sole to a sheet of paper. It is important to see that the patient puts his weight on the foot during both parts of the process. The result is an accurate and permanent impression of the weight-bearing portions of the foot. The foot can be easily cleaned with soap and water.

FIG. 3.

From a case of flat feet.

The impressions may be photographed and reduced in this way to a size suitable for the note-book. The illustrations are from photographs of such impressions. A normal impression, Fig. 1, is by no means the rule. Fig. 2 shows the result of wearing high-heeled boots—viz., pes cavus with crowded toes. Fig. 3 is from a case of flat foot. The method is inexpensive and easy of application.

Llandudno.

[1] Münchener Medicinische Wochenschrift, Jan. 6th, 1906.

ORAL SEPSIS IN OPERATIONS ON THE THROAT.

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So much attention has recently been paid to the connexion between oral sepsis and infective fevers that oral sepsis relative to operations upon the throat naturally presents itself for consideration. It seems almost superfluous to emphasise the necessity for careful cleansing of the parts before and after such operations, yet notwithstanding the elaborate precautions taken in other regions it must be admitted that in the more familiar cases of tonsillotomy, uvulotomy, &c., the same amount of care is not always taken. This may be explained, in part, by the prevalence of the view that these cases generally "do well of their own accord" and that complications are extremely rare even in hospital out-patient practice; or that, unlike other regions, the mouth cannot be sterilised by ordinary methods, and if it were possible it could not be kept sterile for very long, its functions themselves preventing it. However great a measure of truth there may be in such contentions, they certainly do not justify a total disregard of ordinary cleanliness in the mouth, even if an ideal asepsis is unobtainable. That most of them do terminate satisfactorily in the absence of special precaution must be admitted. At the Central London Throat and Ear Hospital it is customary to see every case of tonsillotomy on the eighth day after operation, when quite 80 per cent. are either completely healed or nearly so. But there remain some patients in whom the "stump" is very unhealthy looking, disinclined to heal, and complicated with middle-ear infection and constitutional symptoms. These are almost invariably the subjects of oral sepsis, malnutrition, or neglected sanitary measures—personal and

domestic. Further, they are mouth breathers. Mouth breathing is one of the chief causes of oral sepsis and being an obvious result of nasal obstruction it is practically impossible to maintain a healthy mouth unless nasal breathing be first restored. The bad habit, however, unfortunately too often persists for a long time after the cause is removed in spite of discipline and every effort to correct it.

Although insanitary surroundings of the patient may be credited with much responsibility for complications, it is remarkable how few children of even the poorest class, living in the filthiest surroundings, are ever subject to protracted healing or other complications when the simplest measures for insuring mouth cleanliness are carried out. It is chiefly in the debilitated and the neglected that they arise. Trouble from middle-ear infection in adenoid operations is now fortunately very rare among this class, a result not unreasonably attributed in no small degree to the prohibition of nasal douching. The healing of so large an area as that occurring in a bilateral tonsillotomy, together with a "raw" naso-pharynx, *must* be influenced by a septic mouth. There need be therefore no doubt as to the expediency of adopting trustworthy corrective and preventive measures, not only before but during and after the operation. Bacteria may not only be reduced in number and virulence but the local conditions may be rendered as unfavourable as possible to their development.

The bacteria found in the mouth and the throat, both in apparently healthy and in diseased states, are so numerous that an exhaustive list would be too cumbrous in this article, but as it is customary arbitrarily to divide them into non-pathogenic and pathogenic it is necessary that in the present state of our knowledge a warning should be given of the danger of too strict a limitation. This specially applies to the moulds, since many of them are now recognised as pathogenic, and we have every reason to believe that under favourable conditions the list may be greatly extended by the inclusion of those which are at present classed non-pathogenic (1).[1] For clinical evidence, bacteriological evidence, and published opinions are so conflicting that the pathogenicity, the specificity, or the harmlessness of most of them must not be too readily accepted or rejected, nor can too much caution be exercised in attributing to each one its respective power for good or ill. Both local and general powers of resistance and receptivity doubtless play important rôles, since it is not at all uncommon to find diphtheric and tubercle bacilli in the throats of healthy patients, likewise diplococci and streptococci bacteriologically indistinguishable from the most virulent. To several bacteria have been dogmatically attributed individual clinical specificity—e.g., the fusiform bacillus of Vincent, leptothrix, streptothrix, and spirochæta, yet each micro-organism may not only be found in the scrapings of almost any ulcer of the mouth and fauces but also in the apparently normal.

In six recent cases of persistent ulcers of the pharynx and tonsils of doubtful nature five of them afforded a pure growth of penicillium glaucum on serum and agar, while the sixth gave an equally pure crop of streptococcus pyogenes. In less than a week each case was healed and further cultures were negative. It must be admitted that at present clinical and bacteriological interpretation of bacteria occurring in this region are conflicting and most confusing. We must, therefore, not be too ready to accept as innocent or friendly a micro-organism which happens to be a "saprophyte," for in many of the moulds may be latent dangers almost as serious as those attending the more notorious pyogenic germ (2) (3).

Although the mouth, fauces, and oro-pharynx at all times may each be considered a perfect garden of germs it is fortunate that under normal conditions the naso-pharynx is practically sterile. This may be due in part to the effective filtering action of the nostrils, the activity of the ciliated epithelium, but also in no small degree to the rich outflow of leucocytes and alexines from the healthy mucous membrane and lymphoid tissue of the parts. For whenever those tissues are diseased the cavity loses its sterility and swarms with bacteria. This is strikingly illustrated by Atrophic Rhinitis a disease in which the ciliated epithelium is replaced by stratified squamous cells and all the lymphoid elements entirely disappear, when the naso-pharynx is found to be swarming with micro-organisms and is offensively fœtid. If we are right in attributing a protective power to these lymphoid structures surely special care is demanded after their wholesale suppression, as happens in tonsillotomy and the removal of adenoids.

How can the parts be cleansed? As already mentioned, the naso-pharynx is normally sterile, but not always so in adenoids since they are not infrequently the seat of morbid changes, drainage and ventilation being more or less impaired. As a rule, however, the less an infant's nose is interfered with the better. Anterior or posterior nasal douching is not to be recommended (except in very rare cases) owing to the danger of infecting the middle-ear through the Eustachian tube. The careful introduction of boricated vaseline on a camel-hair brush, or the tip of the little finger, well into each nostril will excite sneezing and a copious nasal flow which generally clears the passage from accumulation. After the operation, in about from 12 to 24 hours, a solution of 1 per cent. of Peruvian balsam in liquid vaseline blown with an atomiser into the nostrils will keep the parts clean and sweet. If old enough, the child should at once be "disciplined" in gently blowing the nose, but violent efforts must not be allowed until healing is complete and then only with great caution. The naso-pharynx will, as a rule, be kept quite clean by these measures apart from its own army of scavengers, the leucocytes. It need scarcely be added that under diseased conditions of the nose and naso-pharynx, such as an acute catarrh or atrophic rhinitis, all oral and throat operations should be undertaken with the strictest precaution, if at all.

Cleansing of the mouth and also the fauces is, however, far different and demands more energetic measures. As already stated, complete asepsis of this region is practically impossible but much can be done towards cleansing and keeping it clean. If the teeth are decayed a thorough treatment at the dentist's hands is indispensable, for no case should be operated upon at any age when suffering with carious teeth. The younger the patient the greater will be the difficulty, for infants and young children naturally resent all attempts to cleanse the mouth or throat, whatever method may be employed. But, fortunately, the younger the child, the lower is the septicity of the mouth (4), but with greater range in food, with increased mouth breathing and dental development, the greater is the likelihood of bacterial development. Gargles are out of the question; therefore swabbing, irrigation, or direct application by sucking the different drugs must be resorted to in infancy and early childhood. At later ages, the patient's intelligence being relied upon, a wider range of selection will be available.

We will first deal with infants. Should there be any thrush, a gentle but thorough swabbing with glycerine of borax on a firmly applied cotton-wool mop every few hours and careful avoidance of re-infection will soon clear off the patches. But strict assurance must be taken that the parts are quite free before attempting operation. Although there are many other far more rapid and thorough antiseptics, they are too irritating, too unpleasant in taste, or so harmful if swallowed as to impair their practicability. Boric acid in 10 per cent. solution, sanitas (1 per cent.), and lysoform (½ per cent.) are all useful, especially the last, but for general use by the nurse a tablet of formamint, crushed and carefully inclosed in a piece of butter-cloth, the ends being secured by stout thread and held, may after moistening in water be placed in the infant's mouth for a few minutes several times in the course of the day. It readily dissolves in the saliva, has a pleasant taste, is non-poisonous, and yet most effectively controls bacterial growth and consequent fermentative processes. This is equally useful and trustworthy during the healing process, and is a method preferable to simply placing the tablet in the mouth, a somewhat dangerous practice at such an age (5).

Formamint, which has received much attention on the Continent and has already been referred to in this country, is a loose chemical combination of formic aldehyde and lactose, put up in the form of a compressed tablet, each one containing one-sixth of a grain of formic aldehyde, combined with sugar of milk, citric acid, and pepto-hydrochloric acid, and flavouring agents. It differs entirely from a simple solution of formic aldehyde in nature and in action, being much more powerful, devoid of any irritating property, and on solution by the saliva sets free that disinfectant in a nascent form. It is maintained by Zwillinger (6) that it acts not only as a powerful local antiseptic but that it also continues its action after absorption as an antitoxin, so aiding the reputed neutralising effect of healthy saliva upon

[1] The figures within parentheses refer to corresponding numbers in the bibliography at the end of the article.

toxins of oral origin as well as helping the immunising rôle of phagocytes in the pharynx.

In the case of older children and adults even more active measures are demanded, since a septic state of the mouth is generally either more pronounced or more likely to occur. In them even greater precautions with regard to the teeth must be taken, especially in cases involving treatment of the accessory nasal sinuses. A stronger mouth douche at such ages can be employed successfully, owing to the patient's intelligent coöperation, supplemented by the tooth-brush. Gargles are best avoided, especially when the parts are inflamed, from the great risk of swallowing the fluid or from causing pain and irritation due to its getting into the sensitive naso-pharynx and larynx. Few patients ever learn to gargle properly and failure only causes disappointment. Further, the act of gargling violently agitates structures which demand rest and passive treatment and there is the further risk, as in anterior and posterior nasal douching, of infecting the middle ear when improperly performed. Many subjects of adenoids and enlarged tonsils are quite incapable of gargling owing to paresis of the soft palate and faucial sphincter. In acute angina its painfulness is alone sufficient to indicate its inappropriateness when odynphagia is such a prominent symptom.

The most satisfactory substitute for gargle is either a mouth douche or a soluble lozenge. In case of the former the mouth is partially filled with solution, the head is thrown back, and the lips are closed while the tongue's movements distribute the fluid. But by far the more thorough method is that of the lozenge as exemplified in the formamint tablet This should be placed in the mouth and allowed to undergo passive solution rather than active mastication, a process which facilitates a closer contact and a wider distribution of the antiseptic, with but little discomfort and no danger to the patient.

The list of available mouth antiseptics is a very large one, but few of them are free from shortcomings however powerful their antiseptic action may be. First we have phenol, which, if employed in sufficient strength to kill bacteria, is not only poisonous but also unpleasant and temporarily destroys the sense of taste (and smell too if applied to the olfactory mucous membrane). Liquor carbonis detergens, creolin, cyllin, &c., are equally unpleasant but less toxic and perhaps relatively stronger as bactericides, yet good deodorants. The different permanganates are certainly better, especially permanganate of zinc. This is not only effectual but pleasant and far superior to the sodium and potassium salts. One tablet (one-tenth of a grain) should be dissolved in half a tumblerful of water. Preparations of menthol, eucalyptol, thymol, and other volatile oils are only deodorants. Biborate and bicarbonate of sodium are useful adjuvants since they dissolve mucin, but, like boric acid, have but slight antiseptic power, as also salicylic acid and its salts, which, further, are solvents of epithelium. Chlorinated soda is undoubtedly valuable, especially when there are specific ulcers and much fœtor. Weak solutions of sulphurous acid readily kill "mould" deposits such as thrush, aspergillus forms, leptothrix, and spirochætæ. Sanitas and different preparations of peroxide of hydrogen are not only good disinfectants and deodorants, but they are especially valuable in being non-poisonous. Formalin must be used in very dilute solutions and only employed in the mouth owing to its pungency and irritative action upon the more delicate respiratory tract. Lysoform, however, is less pungent, and as a mouth douche in ½ per cent. solutions it affords a highly antiseptic and powerful deodorant. Martindale's combination with lavender is pleasant and effective. It need scarcely be emphasised that the salts of mercury should only be used by the surgeon. Aletozone is not only useful in the mouth but may also be employed as a nasal spray (10 grains to one pint of water) in the same way as Löffler's solution. These antiseptics may be used not only in solutions of appropriate strength as mouth-washes or douches by the patients themselves, supplemented by a sterile tooth-brush, but also applied as stronger solutions by the surgeon only, on swabs or mops to the selected areas.

Nasal douches are sometimes necessary but should only be prescribed with great caution. The most efficient and least irritating is a weak solution of borax and sodium sulphate (1 per cent.) preceded by an insufflation of boric acid and formamint, one tablet being finely powdered and mixed with 100 grains of specially fine powder of boric acid or, when greater stimulation is required, ½ per cent. of lysoform in boric acid. A strong antiseptic is not necessary, since the requisite cleanliness is certain to follow even slight stimulation by the outflow of exudate and leucocytes, which, together with the ciliary movement, can be relied upon effectively to cleanse the parts.

Although the foregoing selection includes but a few of many antiseptics, it is sufficiently representative to afford a trustworthy choice. Personal experience, however, enables the following preparations to be specially recommended: Formamint as a non-toxic and trustworthy antiseptic in all ages and all kinds of oral sepsis (it should be allowed passively to melt in the mouth, freely mixing with the saliva, and not masticated); permanganate of zinc for daily use and as a night and morning douche; lysoform, with or without lavender; sulphurous acid and liquor sodæ chlorinatæ in cases requiring a special preliminary swabbing and douching; and salicylic acid dissolved in borax when there is much epithelial accumulation.

But, as already mentioned, it is impossible to sterilise the mouth and keep it sterile by these or any other antiseptics. Nevertheless, the risk of auto infection during operations in its neighbourhood may be greatly reduced by their intelligent employment.

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Stratford-place, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GRAVES'S DISEASE TREATED BY RODAGEN.

BY J. RONALDSON RUSSELL, M.R.C.S. ENG., L.R.C.P. LOND.

RODAGEN is described as a mixture of milk-sugar and the desiccated milk of a goat from which the thyroid gland has been removed. It has been used with apparent success in cases of Graves's disease and the following is an account of a case in which I was able to try the effect of the drug. Messrs. R. W. Greeff, Eastcheap, London, kindly provided me with a supply of rodagen sufficient for a six weeks' trial. The previous history of the case before commencing rodagen was as follows. The patient was an unmarried woman, aged 29 years. She first consulted me in May, 1905, on account of loss of weight amounting to 14 pounds in three months. She suffered from profuse perspirations; exophthalmos was marked, and neither Stellwag's nor von Graefe's signs were present. There was uniform slight enlargement of the thyroid. Tachycardia was present, the pulse varying from 120 to 160 per minute. No cardiac murmur could be detected but the pulsations of the thyroid and of the large vessels of the neck were noticeable to the patient herself. Tremor of the hands was present and a feeling of weakness in the knees. She was sent to a farm-house, where she had four pints of milk per diem in addition to ordinary diet, and was kept at rest in the recumbent position out of-doors for one month. She was also given bromide and tincture of digitalis but without apparent benefit from these. On the other hand, the dieting and the rest apparently were of large benefit to her and all the symptoms became less severe and she increased in weight 7 pounds. Treatment by rodagen was commenced on June 17th, 1906, her weight being then 9 stones 4 pounds. She was first given five grammes per diem and afterwards 10 grammes. On July 16th her weight had increased to 9 stones 7 pounds and on August 7th she weighed 9 stones 12 pounds. At this date the treatment was discontinued. The weather during the whole of the time she was taking rodagen was very hot and the patient said that she was never so well in hot weather. Since taking the rodagen she states

that the diarrhœa has certainly been less frequent. She has slept better and the weakness of the knees has not troubled her so much nor has the tremor. The headache, palpitation, and throbbing of the neck have, however, been much the same as before. I should certainly try the treatment again in any case where the expense was not prohibitive. I am quite aware that no definite arguments can be drawn from one trial of the drug in one case, but from other cases which have been reported I think that the drug deserves a further trial.

Westerham.

RUPTURE OF THE INFERIOR VENA CAVA.

BY WM. ST. CLAIR SYMMERS, M.B., C.M. ABERD.

I RECENTLY performed a post-mortem examination on a boy in whose thorax the following unique condition was found. A lad aged 16 years was brought to the Royal Victoria Hospital, Belfast, with the history of having been kicked in the chest by a horse. The patient survived for several hours, dying about four hours after the infliction of the injury. At the necropsy the skin over the chest was found to be normal in every respect; there was slight hæmorrhage in the right pectoralis major near its sternal attachment; the sternum was snapped through transversely just below the attachments of the third costal cartilages, the underlying mediastinal tissues being slightly ecchymotic. The pericardial sac was distended with dark blood containing a single large dark-red clot. The anterior surface of the heart was uninjured. The inferior vena cava was ruptured to the extent of exactly one inch on its anterior aspect, the rupture beginning at the auricle and running straight down the wall of the vessel. This rupture was gaping so that the orifice was oval in shape and nearly a quarter of an inch wide. Apart from some very slight hæmorrhage near the head of the pancreas the other organs were normal.

Belfast.

A CASE OF APPENDICITIS COMPLICATED WITH ACUTE OBSTRUCTION OF THE INTESTINE.

BY HENRY S. BENNETT, M.R.C.S. ENG., L.R.C.P. LOND.,
ASSISTANT MEDICAL OFFICER, NATAL GOVERNMENT HOSPITAL, DURBAN.

THE following case is of interest inasmuch as it comprises two serious conditions occurring at one and the same time, the cause of each being unusual.

The patient, a trooper in the Zululand Field Force, was admitted to hospital with the history that four days previously he experienced sudden and severe pain in the lower part of his abdomen; he commenced to vomit from this time. His abdomen had become distended and his bowels had been unopened. The symptoms continued and nothing could be retained in the stomach. On admission he looked worn, his eyes were sunken, and he was vomiting without reference to food, the vomited matter having a fæcal odour. The abdomen was tense and distended in the centre but there was no bulging in the flanks; there was tenderness on pressure all over but this was especially marked in the lower portion; no definite tumour could be made out. Percussion gave a tympanitic note in the centre but a dull one in the flanks, the area of dulness encroaching towards the umbilicus over the appendix region; the dulness in the flanks was shifting. Per rectum nothing abnormal could be felt. The pulse was 88 per minute, full and of good tension. His temperature was 96·6° F. An inquiry into his past history then elicited the fact that some five months previously the patient had experienced sudden and severe pain in the lower part of his abdomen, the symptoms lasting, however, one day only. A two-pint enema was given, but without result except that a few specks of fæcal matter came away.

The abdomen was opened through a median incision made below the umbilicus; the small intestine was much distended and its surface showed signs of acute inflammation; there was no great quantity of free fluid, and what there was was serous in character. On exploring the cavity some thickening could be felt in the neighbourhood of the appendix and on inspecting this site the appendix could be seen wrapped round a coil of gut. In order to facilitate working a transverse incision was made at right angles to the first one and directed towards the right flank. It could then be seen that the appendix was completely encircling a portion of the small bowel; the organ had formed a collar around a single piece of gut only, showing that it must have taken up that position previously to its blind end becoming adherent, rather than first forming a loop through which a coil of gut had slipped. It was impossible to free the adherent end of the appendix without risk of tearing the intestine, for that organ had formed almost a complete circle on itself, the distal end being adherent to the posterior abdominal wall close to the cæcum and beneath that portion of gut which it was constricting. The ring of appendix was therefore divided, the cut ends being immediately touched with pure carbolic acid. The gut having been freed the distal end of the appendix was detached from its bed, the proximal end being afterwards removed in the usual way. It was necessary to evacuate some of the contents of the small intestine in order to lessen tension and so allow the edges of the abdominal wound to be drawn together. The peritoneal cavity was washed out with normal saline solution and a drainage-tube inserted down to the site of the adherent appendix. On opening the appendix its wall was found to be much thickened and a pin, surrounded by a hard fæcal concretion, was seen filling its lumen.

As to the immediate cause of the intestinal obstruction, the history of sudden pain, vomiting, and other signs of obstruction had suggested that a coil of gut had become kinked under a band or had slipped through a hole in the omentum or mesentery, but this was found not to be the case, for, as stated, the appendix was encircling a single portion of bowel only and from the density of the adhesions must have been so situated for some considerable time, at all events for a longer period than four days. No doubt what had actually occurred was that a fresh attack of inflammation within the appendix had supervened, causing further swelling of its wall, and this had led to such constriction of the lumen of the gut as to cause absolute obstruction. The fact that the patient was on active service with the Militia force at the time of being taken ill is sufficient evidence that there was no serious obstruction to the passage of fæces before the present illness began; certainly he volunteered no history of constipation or of colicky pains when on duty. The patient was extremely collapsed after operation and died within four hours of leaving the theatre. He rallied sufficiently, however, to be able to state that he had no recollection of ever having swallowed a pin.

I am indebted to Dr. Joseph H. Balfe, the medical superintendent, for permission to publish the case.

Durban.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Presidential Address: Discussion on Adolescent (late) Rickets.

A MEETING of this society was held on Oct. 12th, Mr. H. H. CLUTTON, the President, being in the chair.

The PRESIDENT, after a few words of welcome at the opening of the new session, delivered an address on the subject of Adolescent (late) Rickets, illustrated by lantern slides, radiograms (prepared by Dr. A. H. Greg), and post-mortem specimens from the Royal College of Surgeons of England and the Hospital for Sick Children. It had long been believed, he said, that all the signs of rickets as seen in infancy might appear in adolescence but it was not until the advent of the x rays that conclusive evidence had been furnished. Coxa vara and genu valgum were no doubt related to adolescent rickets, though the epiphyses did not show quite the same changes. The first case brought forward was that of a man who was 21 years of age when he came under observation nearly three years ago. The ends of the long bones were enlarged and he presented considerable deformity of the legs. His history showed that at the age of 12 years he had had to wear steel supports for genu valgum; that osteotomy was done for both knees at the age of 16 years, and that the present curvature of the lower limbs began to appear at the age of 19 years. The most striking part of this deformity was a bending backwards of both knees. The skiagrams proved that the changes in the bones were of very long duration and had apparently commenced at the epiphyseal lines. In the shafts of

the long bones adjoining the epiphyses there were much less cortex than normal and a large and translucent medulla; it was at this part that the curvature of the bones, which was the cause of the bending backward of the knees, had taken place. The diagnosis of rickets was also established by the changes in the wrists. The lower epiphyses of the radius and ulna were shown by means of the x rays to be in the active stage of rickets. Almost all the long bones showed changes at the ends of the diaphyses adjoining the epiphyses and the changes in the latter exactly resembled those of the rickets of infancy. In this case the bony changes had apparently commenced as usual about the age of 12 years and reached their maximum about the age of 19 years. Two other cases were shown and illustrated by means of skiagrams. The patients were aged 12 and 14 years respectively and the disease in them had arisen quite recently and was limited to the epiphyses. The contrast between the younger patients and the older one whose disease had been in existence for many years was interesting. In the child aged 14 years, double osteotomy had been performed for genu valgum in 1905 but it was not until nearly a year later that the wrist-joints had become swollen. In late rickets it sometimes happened that some of the bones were affected at a considerable interval before the others. Discussing the etiology, the President remarked that the disease was undoubtedly identical with infantile rickets though modified by the age of the patient. A favourite age for the development of adolescent rickets was between 12 and 14 years when a great educational strain was thrown upon the child. Diet did not seem to have much influence. In regard to treatment, there were no special indications beyond diet and fresh air. In the first patient thyroid extract had been administered but it was not certain that it had done any good. One case observed had died from tuberculosis.

Mr. E. MUIRHEAD LITTLE described a case of adolescent rickets occurring in a girl, aged 17 years, who was apparently quite well until the age of five years. When eight years old she broke both femora. She was small in stature and the sexual development was delayed. She died with cerebral symptoms. The bones showed typical rachitic changes; there was a wide epiphyseal line and the shafts were so soft that they could be easily cut with a chisel without the aid of a mallet.

Mr. R. CLEMENT LUCAS congratulated the President on his address, which revived a discussion that he (Mr. Lucas) had instituted in 1883. He referred to a paper published at that time in THE LANCET.[1] He had observed several cases of late rickets in youths associated with intermittent albuminuria and he believed that there was some causal relation between these two conditions. The onset of puberty appeared to have a determining effect on both of these morbid conditions.

Mr. RICKMAN J GODLEE asked whether there were any cases of late rickets on record arising in well-grown persons. If not, this fact suggested that adolescent rickets was really a recrudescence of the disease which had arisen, and perhaps had been overlooked, in early life.

Dr. F. PARKES WEBER suggested that cases of late rickets should be investigated from the point of view of albuminuria. Calcium salts cured most cases of cyclic albuminuria, though they did not appear to have much influence on rickets.

Mr. R. C. ELMSLIE exhibited two cases of adolescent rickets. He could not help thinking that the occurrence of adolescent rickets as a special disorder was not proven. To prove that a child had never previously had rickets was most difficult, the history being very untrustworthy. In a large number of children he had found distinct evidences of previous rickets in over 50 per cent., whilst in only 1 per cent. was the previous existence of the condition known to the mother. The clinical signs of rickets in these cases had nearly always disappeared by the age of eight years, excepting the stunted growth of the skeleton and the head changes. Now, in all cases of adolescent, or as he preferred to call it recrudescent, rickets, the two most notable features were (1) the diminutive size of the patient, and (2) the shape of the head, and particularly the height of the forehead. These facts favoured the view that adolescent or late rickets was in reality a continuation or recrudescence of rickets arising in infancy. In regard to etiology he could not favour the nervous origin; possibly it was dietetic, but it was interesting to note that the onset of late rickets coincided with the periods of most active growth in stature—namely, between the ages of eight and ten and 13 and 17 years.

Dr. ROBERT HUTCHISON, Dr. G. A. SUTHERLAND, and Dr. J. A. COUTTS also exhibited cases of adolescent rickets.

The PRESIDENT, in reply, remarked that albuminuria had not been present in any of his cases and in some of them calcium salts had been tried without effect on the disease. He quite agreed with the view that late rickets might be a recrudescence of the disease arising in early life. But at the same time he was of opinion that the malady might arise *ab initio* at any age during adolescence.

[1] THE LANCET, June 9th, 1883, p. 993.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The annual meeting of this society was held on Oct. 12 h, when Dr. D. S. Davies of Bristol was installed as President by his predecessor, Sir Shirley F. Murphy.—Dr. George Newman in opening a discussion upon Food Inspection said that there were three reasons for the administrative control and inspection of food: first, to maintain a standard of food of the proper nature and quality; secondly, to protect the consumer from eating food which had in it the potentiality to produce disease; and, lastly, because it was essential to a healthy physical life that the food consumed should be both nutritious and palatable. The be-all and end-all of administrative control and inspection should be to secure for the community a pure food-supply and its contribution in this direction had been very considerable, not only in its influence upon the food industry but educationally upon the public taste and standard of suitability of food. As regards meat, the essentials were vigilant and skilled inspection; public slaughter-houses and the gradual extinction of private slaughter-houses; and a rigid system of marking and stamping all inspected meat, home or foreign, which was fit for consumption. No inspection could be considered complete short of an inspection of the animal while alive and an examination after slaughter of the whole carcass and all the organs. The qualifications of the inspector should be those suggested by Dr. W. Collingridge—namely, practical training as a butcher, a fair standard of general education, the meat certificate of the Royal Sanitary Institute, and the sanitary inspectors' certificate of one of the examining boards. The inspectors appointed for the special purposes of meat inspection should certainly have had a training as practical butchers. As soon after seizure as practicable diseased meat should be carefully examined by the medical officer of health and full notes as to its pathological condition taken by him at the time of his examination. This examination should include the carcass, the organs if available, the mode of dressing, and external circumstances such as price, exposure for sale, and the source of the meat. Opportunity should be given to the vendor to see the meat or to have an expert to see it on his behalf before it was submitted to the magistrate for condemnation. The recommendations of Sir Shirley Murphy should be carried out. These included more thorough inspection, accompanied by marking, and the provision in London of a small number of meat inspection stations for the examination by properly qualified officers of meat sent up from the country or imported so that some control would be obtained over the character of foreign meat and some check on foreign inspection. In view of the enormous increase in the foreign trade the time had come when foreign meat imported into this country should be required to comply absolutely with English standards. The only effective administrative control of foods which were tinned or prepared for sale was by a system of inspection at the time of manufacture. This inspection should be concerned with the quality and condition of the original constituents of the prepared food, with the manner of its preparation, and with the premises where it is prepared. All these foods, whether imported or home produced, should bear a distinctive mark or stamp that they had been produced under conditions which had been inspected and were under control. The general policy of protecting the sources of bread, water, butter, and other articles should now be applied to meat, milk, and shell-fish, and in this, as in other respects, sanitary authorities should endeavour to administrate uniformly. The reform should proceed by gradations, should seek not to discourage but wisely to control these important industries, and should attempt to increase rather than to decrease the responsibility of the trade for the production and sale of

wholesome food. Milk-supplies, like water-supplies, needed control at the source and to this end there should be a veterinary and medical service inspection of all cows yielding milk, thorough sanitation and cleanliness in cowsheds and dairies, and the annual licensing of all milk sellers. In conclusion, Dr. Newman considered that the present position of administrative control of food in the United Kingdom led to the conclusion that much remained to be done, not only in the interests of public health but also in the best interests of the great food industries involved, and that the main principle to be adopted should be control at the source.—Dr. Collingridge agreed with Dr. Newman as to the value of the inspection of food-supplies from the point of view of nutrition and not so much of infection, for the influence of food in the conveyance of specific diseases was probably exaggerated, while its influence upon the general health and stamina of the people was certainly underestimated. He referred to the difficulty in obtaining sufficiently trained inspectors, due in great measure to the insufficient remuneration offered.—Professor Henry R. Kenwood advocated the sterilisation of milk.—Sir Shirley Murphy thought that English butchers and farmers were very short-sighted in opposing public slaughter-houses where home-grown meat could be inspected and stamped. It was bad policy on their part to leave it now practically to the housekeeper to decide which was home-grown and which was foreign meat.—Dr. E. Walford said that in Cardiff there were no private slaughter-houses and a veterinary surgeon with six assistants acted under the medical officer of health as meat inspector. This arrangement was so much appreciated by the butchers that when a vacancy occurred they asked the corporation to appoint an inspector with a veterinary qualification.—Dr. J. T. C. Nash referred to the contamination of shell-fish and said that there was very little water on the English coast where bacillus coli communis could not be found, but he thought that it would be fairly safe to lay down a rule that shell-fish should not be cultivated within at least a mile of the shore.—Mr. S. Rideal, D.Sc., said that in the protection of water-supplies and of milk at their source they had not been particularly successful and they must teach the consumer to take proper precautions. He thought that danger would be more likely to arise in the consumer's house than at the source.—Dr. F. E. Fremantle pointed out the enormous cost entailed in efficient inspection and thought that it was well worth considering whether this cost should not be borne by the consuming community rather than the producing.—The President was of opinion that they should aim at inspection at the source of supply and should not allow bad meat to come into our towns and then seek to render it innocuous by cooking or other means.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Oct. 8th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. T. K. Monro and Dr. James A. Adams showed a patient suffering from Spasm of the Muscles of the Lower Part of the Trunk and Thighs. The patient was a bank clerk, aged 46 years, who began to feel nervous about three years ago and to have pains in his back. Even earlier than this his back would get stiff on sitting much, but in other respects he was quite healthy. His symptoms progressed during the first few months, but since then they seemed not to have advanced further, though they had repeatedly relapsed after improving temporarily under treatment. He got relief for a time from one sedative after another but each soon lost its effect. He could suggest no cause for his illness and the family history threw no light upon it. He was on his feet for seven hours daily when at his work but was not confined to one spot. Attempts to move and any kind of excitement brought on the spasm and if he persisted in attempts at movement the condition of the muscles did not improve. There was complete relaxation during sleep, the knee-jerks were present, and the sensation was normal. Dr. Monro could find no account of any exactly similar case in the literature and was inclined to regard the condition as an occupation neurosis analogous to writer's cramp, and the overwork of the muscles in this case was explained by the constant standing.—Dr. A. Freeland Fergus and Dr. A. L. McMillan gave a demonstration on the Removal of the Lacrymal Sac in cases of Chronic Suppuration. The cases in which the operation had been performed were shown.—Dr. Alexander Napier and Dr J. Anderson related the history of a case of Tumour involving the lung, the pleura, and the mediastinum, and microscopical preparations of the same were shown. The patient, a young woman, aged 24 years, was admitted 18 months ago to hospital as a case of chronic pleurisy. About six weeks before her admission she suffered from pain in the right side of the chest aggravated by lying on that side and by coughing and had suffered from loss of flesh and strength and occasionally from night sweats. The family history indicated a tuberculous tendency. The signs of a right-sided pleurisy with effusion were made out and a small quantity of fluid was removed by aspiration; this fluid contained mononuclear lymphocytes, eosinophiles, and pleural endothelial cells, and a number of diplococci but no tubercle bacilli. The patient was dismissed improved but 15 months later was readmitted on account of a short dry cough, often paroxysmal in character, with progressive loss of strength and weight, symptoms which had troubled her during the greater part of the interval. Physical examination indicated a thickening of the pleura over the lower part of the right lung and the case was regarded as tuberculous in nature, but tubercle bacilli were never obtained in the sputum although frequently examined for. A fortnight after admission she was seized with an acute pericarditis from which she recovered but later developed marked dulness with loss of respiratory murmur, vocal fremitus, and vocal resonance on the affected side, and an exploring needle was inserted at several places but no fluid was obtained. Cyanosis, breathlessness, and venous distension in the neck ensued and these got gradually worse up to the time of her death. At the necropsy the conditions found were an adherent pericardium, heart displaced by the consolidated lung, and a tumour of the size of an orange on the anterior mediastinum; the glands in the posterior mediastinum and around the right bronchus showed malignant enlargement. The greater part of the right lung was replaced by tumour tissue and this had penetrated the diaphragm and given rise to a large growth in the upper part of the right lobe of the liver. The pleura was much thickened. The microscopic appearances of the tumour showed a very dense growth composed of spindle-shaped cells with alveolar disposition and large elongated nuclei resembling a spindle-celled sarcoma but probably of the nature of a pleural endothelioma.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The first monthly meeting of the winter session of this society was held at the Bolingbroke Hospital on Oct. 10th, Dr. M. Mackintosh, the President, being in the chair.—An address was given by Dr. J. H. Wells on the Treatment of Bacterial Diseases by the Inoculation of the Corresponding Vaccines. After an introduction, in which the distinction between sérums and vaccines was explained and attention was drawn to the various forms of antibacterial substances in the blood, Dr. Wells described the mode of action of opsonins and gave in detail the methods adopted for estimating the opsonic index. The clinical applications and diagnostic value were discussed, the need for a control and the sources of error were pointed out, and the manner in which errors might be avoided was suggested. Drawing his illustrations chiefly from tuberculosis, Dr. Wells presented charts showing that in localised lesions with a high opsonic index, active or passive movement was followed by a fall in the index for the particular organism while that of the control organism remained unaltered. The methods of preparation and standardisation of vaccines were gone into and the various clinical conditions in which the treatment was applicable were discussed. Dr. Wells also showed charts to illustrate the positive and negative phases and the dangers attendant upon re-inoculation during the negative phase which invariably succeeded inoculation. Skiagrams were shown of tuberculous affections of joints at various stages of treatment in which improvement was clearly manifested. A strong caution was given against large doses of vaccine in the early stages of treatment and the importance of rest in bed and under observation during the treatment of pulmonary tuberculosis and of severe cases was emphasised. The question of auto-inoculation was discussed, Dr. Wells pointing out that a high opsonic index might be obtained in cases with large lesions and interpreted this as meaning that a strong effort was being made by the system to cope with the disease, noting also the fact that the occurrence of high or low indices of positive or negative phases coincided with the patient's sense of physical well-being or the opposite. Having pointed out that in the case of mixed infections it was possible to treat each component infection separately and successively, he concluded with a few remarks on the results to be obtained. In

small single lesions and in some multiple ones great improvement might be expected; in more severe cases, as where caseation or necrosis had taken place, the treatment could not be expected to do more than place the parts in the best condition for surgical interference; in more extensive lesions it was probable that the beneficial effect might be limited to enveloping the damaged area with a fibrous covering. As an addition to the sanatorium treatment of consumption it had proved most beneficial, especially in early cases; while the results in septicæmia had not yet been uniformly successful. Dr. Wells subsequently demonstrated parts of the opsonic technique and showed microscopic slides of phagocytic action on tubercle bacilli, streptococci, and other organisms.—In the discussion which followed a question was asked and answered to the effect that there was nothing in the treatment or the diagnostic technique which could not be carried out by the general practitioner, and some severe comments were made on the action of a metropolitan hospital in instituting a "pay" department for opsonic treatment. The interest of the profession in the subject was shown by an unusually large attendance of members.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND: NORTHERN AND MIDLAND DIVISION.—A meeting of this association was held at the David Lewis Colony, Sandle Bridge, near Manchester, on Oct. 11th, Dr. Alan McDougall, the medical director of the colony, presiding.—Dr. Ernest S. Reynolds (Manchester) read a paper on Obsessions and Imperative Ideas. He mentioned the simple examples found in everyday life, such as the idea that the gas tap has not been turned off. In the shape of fixed delusions compelling to some action obsessions were common in the insane, but he specially alluded to those occurring in purely neurotic patients and related short accounts of such cases which could be classified as: (1) instances of over-caution often combined with the insanity of doubt; (2) those occurring in hypochondriasis such as syphiliphobia; (3) some of the fears of neurasthenia; and (4) those impelling to homicide or suicide.—Dr. McDougall read a paper on the Etiology of the Epileptic. He considered that several of the unpleasant characteristics of the epileptic were the result of treatment, not symptoms of the disease. He urged that treatment should not be directed solely, or even principally, against fits but that the chief aim should be to keep the patient, in spite of his fits, as much like his neighbours as possible. He ascribed the benefit of colony treatment to the fact that at a colony the epileptic could regard himself as a normal member of the community in which he lived.—A discussion on the Alleged Increase of Insanity was opened by Dr. J. Milson Rhodes (Manchester). He said that the increase in the number of certified patients reported by the Commissioners in Lunacy had created considerable alarm, but this increase did not prove that there was any increase in insanity. Similarly the returns from fever hospitals showed an increase in the number of patients, but no one talked about the enormous increase of infectious disease because the admissions were ten times as great as they were 20 years ago. He considered that this was not an increase in the actual number of fever cases but merely a rapid increase in the number sent to hospitals, due to the greater confidence in the fever hospitals, and that similar considerations affected the admissions into lunatic asylums. He also showed that there was actually a decline in the death-rate from nervous diseases. An increasing number of aged persons had also been certified as insane in recent years. Another cause of the increase in numbers was the enlarged area of the gathering ground, as there were now sent to the public asylums a large proportion of patients coming from the middle classes; and lastly, the changed ideas as to what constituted certifiable insanity had greatly added to the number of persons certified. At one time the question whether or not the patient was dangerous to himself or others decided the course taken, but now to a very much larger extent the benefit of the patient was the primary consideration. In spite of these facts he was glad to say that the ratio of first admissions, which was the true test, had fallen from 5·76 to 5·21 during the past four years, and he concluded by expressing the opinion that with improved sanitation and morals there would be not only a physical but also a mental improvement of the people.—In the discussion which followed there was a general expression of concurrence with the views expressed by Dr. Rhodes.—During the forenoon members had an opportunity of inspecting the premises and seeing the most recent methods adopted for the care and treatment of epileptics.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Oct. 11th, Mr. Frank T. Paul, the President, being in the chair.—The President delivered an address on the Importance of the Earliest Possible Recognition of Malignancy in Tumours. He drew special attention to the diagnostic value of the microscope and said that in dealing with new growths two mistakes were frequently made, either of which was sufficient to bring about a failure in treatment; one was waiting in the early and doubtful stages until malignancy was declared and the other was throwing the responsibility of the diagnosis on a pathologist who had never seen the case and had only a shred of tissue on which to base his opinion. Histology alone was not sufficient in difficult cases; either the clinician should be better trained in histology or the pathologist should become a clinical pathologist. In spite of all that had been done by the brilliant band of workers in cancer research, up to the present time early and complete removal had proved the only trustworthy treatment. Recurrence generally meant that the removal of the disease had been incomplete, but there were some patients in whom the tendency to cancer was so inveterate that the successful treatment of one growth might be followed by the development of another of a different type. Discussing epithelioma of the tongue the President said that he associated himself with Mr. H. T. Butlin in believing that it was curable under favourable conditions. The difficulty generally lay in the differential diagnosis of epithelioma, papilloma, and simple and tuberculous ulcer. Epithelioma often began in a syphilitic sore of the tongue and it was to be feared that many lives were lost owing to the delay caused by the six weeks' specific treatment which it was usually thought necessary to prescribe, while the microscope would often reveal in a specific or apparently simple ulcer a small centre of malignant disease. Butlin's radical operation was not too extensive for the smallest epithelioma of the tongue. Solitary tuberculous ulcers of the tongue or lips might occur in apparently healthy subjects and without microscopical examination might be mistaken for epithelioma. Papillomata should be invariably removed and if found to be undergoing malignant changes an extensive dissection should be performed, although the papillomatous form of cancer, because of its outward growth, was much less malignant than the ulcerous variety. Speaking of malignant disease of the maxillary antrum, the President said that his note-books showed that 20 or 30 years ago sarcoma was more common than carcinoma; he thought that carcinoma was attacking younger people while sarcoma was diminishing in frequency. He then discussed the varieties of fibromata, malignant and benign, skin tumours, implantation cysts, and rodent ulcers. The last disease was a true cancer of the sebaceous glands, was often multiple (two varieties of cancer never flourished at the same time in the same subject), and contrary to the statement often made it did infect the lymphatic glands. Malignant diseases of the bladder and of the breast were then discussed, the President's well-known views on the pathology of the latter being restated, and the importance of early microscopical examination in doubtful cases of disease of either organ being insisted upon. The address was illustrated by 71 lantern slides taken from microphotographs.

HARVEIAN SOCIETY.—A meeting of this society was held on Oct. 11th, at the Stafford Rooms, Titchborne-street, W., Dr. F. William Cock being in the chair.—Dr. Alexander Morison read a paper on the Cardio-vascular State in Asphyxia Neonatorum and its Management. He adopted the usual classification of these cases into the cyanotic and pale varieties, regarding the latter as a more advanced stage of the former, and proceeded to discuss the underlying physiological and pathological conditions in the two varieties. In discussing prognosis he regarded the condition of cardiac action as the best guide to a forecast and stated that asphyxia in these circumstances represented the etymological origin of this term—namely, pulselessness—the prognosis being favourable in proportion to the vigour of cardiac action. In considering treatment he discussed the question of dividing or not dividing the funis immediately after the birth of the child and stated that only in the cyanotic variety was it advisable to allow the funis to bleed for a short time.—Dr. C. J. N. Longridge stated

that at Queen Charlotte's Hospital they considered that the "blue" baby and the "white" baby resulted from totally different conditions. The former was the result of asphyxia and the proper treatment was to clear out the pharynx and perform artificial respiration. The latter was due to shock and pulsation in the cord was usually absent. The proper treatment was a hot bath, gentle stimulation, and massage of the heart. Artificial respiration was unsuitable.—Mr. Herbert T. Herring then read a paper on Easy Methods of Sterilising Urethral Instruments, giving a practical demonstration of the methods. He had devised a method of sterilisation of catheters by which both the catheter and the lubricant were sterilised and little manipulation of the catheter by the operator was required. The catheter or series of catheters were suspended from hooks in a cylindrical metal vessel containing water and a small quantity of vaseline. The water was then brought to the boiling point by a spirit lamp underneath, the catheter was sterilised, and when withdrawn it was coated with a thin layer of sterilised vaseline. If catheters were wanted some time after sterilisation they could be placed separately in glass tubes and sterilised in the same way, each glass tube being corked with a sterilised rubber plug after withdrawal from the steriliser.—Mr. Raymond Johnson had found the method of boiling water and oil in a test tube for sterilisation and lubrication of a catheter efficient but the boiling oil tended to roughen the catheter.—Mr. P. L. Daniel had also used this method but had much greater success with Mr. Herring's steriliser which he had used for some time. He had not had an instance of cystitis after this method of catheterisation.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Oct. 11th, Mr. F. B. Jessett, the President, being in the chair.—Dr. H. Overy (for Dr. H. Macnaughton-Jones) exhibited a specimen of a Uterus with a Fibroid undergoing Necrobiosis and read notes of the case. The tumour was accidentally discovered by the patient herself who only complained of distended abdomen and slight dysuria. The tumour reached the umbilicus and extended to the left side. She made a good recovery from the operation.—Dr. J. H. Dauber exhibited a specimen of Necrobiotic Fibroid removed from a single patient, aged 40 years, who suffered acute pain for two years. Three weeks previously she had an attack of acute pain while stooping over her housework. The temperature was 101° F., with symptoms of subacute peritonitis and there was a tumour which extended several inches above the umbilicus. On opening the abdomen the tumour was found attached to the fundus of the uterus with a twisted pedicle. Many intestinal adhesions were found which readily separated and the tumour was removed after tying off the pedicle. The uterus contained two or three fibroids and was removed by supravaginal hysterectomy. The tumour was offensive and contained dark grumous fluid.—The President exhibited some specimens, among which were (1) a specimen of Multiple Pedunculated Fibroids undergoing Calcareous Degeneration removed by cœliotomy and enucleation. On opening the abdomen four hard tumours of different sizes were enucleated from the uterus, causing but little hæmorrhage which was arrested by deep catgut sutures. The patient made an uninterrupted recovery. 2. Notes of a case of Large Abscess in the Pouch of Douglas simulating a suppurating ovarian cyst and causing obstruction of the bowels. The patient, aged 46 years, with eight children, complained of frequent micturition for one month previously to seeking advice. Her present illness began five weeks previously with abdominal pain and vomiting. There were pyrexia and constipation. The abdomen was distended below the umbilicus and considerable rigidity was present. On bimanual examination the pouch of Douglas was found to be occupied by a tense non-fluctuating swelling without much pain. On opening the abdomen the intestines were matted together and extensive peritonitis was found. While separating a coil of intestine over the brim of the pelvis some foul-smelling pus welled up. The patient was then put in the lithotomy position, the posterior fornix was opened, and a gauze drain was inserted. She made a slow recovery and one month afterwards was free from any discharge.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 5th, Dr. J. Lindsay Steven, the President, being in the chair.—The President and Dr. C. Workman showed specimens from a case of Cancer of the Œsophagus. They said that the patient began to suffer about a year ago from dysphagia which became urgent three months ago and subsequently became absolute. Any fluid swallowed was returned after about 30 seconds. A bougie was obstructed ten inches from the teeth and its passage caused him to bring up an ounce of caseous material suggesting ulceration. Examination of the abdomen was negative. On the day after admission to hospital a consolidation at the base of the left lung was detected. The temperature was subfebrile. The pulmonary complication contra-indicated operation. During the patient's residence in hospital feeding was entirely per rectum. Pain was absent. Post-mortem examination revealed consolidation (insufflation pneumonia) of the lower lobe of the left lung with a gangrenous abscess. In the œsophagus, opposite the bifurcation of the trachea, there was a large fungating ulcer with two openings perforating into the left bronchus. No secondary growths were found. Sections showed the ulcer to be an irregularly squamous-celled epithelioma.—Dr. G. T. Beatson read a paper on Chauffeur's Fracture, illustrated by two cases. He said that this fracture was usually caused by "back-firing," when the chauffeur was turning the handle at the front of the car, especially if he was holding it with his knuckles up and his thumb round the shaft, as in this position the hand could not be quickly disengaged. The hand was bent forcibly backwards while it had a degree of ulnar deflection and the lower end of the radius was fractured. The line of fracture (illustrated by x ray photographs) was transverse and fairly regular and carried off the whole articular surface of the radius; or it might pass into the joint. The fractured end in each case was triangular and included the styloid process. The symptoms were pain, swelling, and crepitus, but there might be no distinctive deformity as in Colles's fracture. Both cases were treated with Carr's splints, with early movement of the fingers. The splints were removed in three weeks and practically no stiffness resulted. Dr. Beatson thought that such cases might be classified as Colles's fracture without deformity and ought to make surgeons careful not to exclude fracture on account of the absence of deformity. The fracture might be prevented by grasping the handle with the knuckles down.

DERMATOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Oct. 10th, Dr. J. J. Pringle being in the chair.—Dr. H. G. Adamson showed a case of Lichen Spinulosus in a young child, the eruption covering the arms, the legs, and the face. The disease had commenced with an erythema. The eruption was not grouped in the way in which ordinary lichen spinulosus usually was and Dr. Adamson thought it was an instance of the disease which H. G. Brooke had named keratosis follicularis contagiosa, although in this case there was no history of contagion.—Dr. T. Colcott Fox showed a case of a Granulomatous-looking Tumour of the Back of the Hand in a man who was a horsekeeper by occupation. The diagnosis was not quite established and a portion of the tumour would now be excised and examined histologically and the result communicated at a future meeting.—Dr. Wilfrid S. Fox showed two cases of Sclerodermia.—Dr. J. M. H. Macleod showed a case of what was probably Lupus Erythematosus of the Face and Neck of a woman with concurrent small nodules on the hands and on the legs large and deep infiltrations which clinically resembled erythema induratum.—Dr. J. A. Ormerod showed a case for diagnosis, the patient being a girl, aged 12 years, in good health, but showing an eruption upon the back, the shoulder, and the chest and consisting of small follicular ulcers, which were scabbed over, and pitted scars. The lesions were grouped in a somewhat herpetiform manner, chiefly on the right side of the body. During her attendance she had had an intercurrent attack of genuine herpes on the left side of the chest. Many suggestions were made, including such diagnoses as morphœa, acne varioliformis, and Darier's disease, but it was agreed that no diagnosis could be positive without further investigation, especially as to the histological nature of the lesions.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on Oct. 4th when Dr. T. K. Monro delivered the presidential address, choosing for his subject "Some Family Diseases." After remarking that old age was in reality a rare form of death, Dr. Monro showed that in some individuals certain organs underwent decay long before the usual degenerative period of life was reached and even in some cases before the body as a whole had reached maturity. Such conditions were likely to occur in several members of a family. Among such diseases were muscular dystrophy, spastic diplegia, amaurotic family

idiocy, Friedreich's disease, retinitis pigmentosa, and xerodermia pigmentosa. Diabetes might be met with as a family disease and reference was made to a family in which five of its members died from this disease in childhood. Gout, pentosuria, cystinuria, and alkaptonuria were also touched upon as frequently occurring in families. It was pointed out that some of the diseases described might be compared to the variations or sports met with among animals and plants. As to the origin of these variations practically nothing was known.—The following office-bearers of the society have been elected for the session 1906–07. Honorary President: Dr. J. Barras. President: Dr. T. K. Monro. Vice-Presidents: Dr. T. Forrest and Dr. J. Grant Andrew. Treasurer: Dr. J. A. Aitken. General secretary: Dr. J. P. Duncan. Editorial secretary: Dr. R. N. Dunlop. Seal keeper: Dr. R. W. Forrest.

Reviews and Notices of Books.

Second Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. Philadelphia: Published by the Henry Phipps Institute. 1906.

THE second year's work of the Henry Phipps Institute, like the first, was carried on in temporary quarters and under difficulties. Nevertheless, the credit for the very valuable report is thereby increased. Dr. L. F. Flick, the medical director, has supplied elaborate statistics in regard to the nationality of the patients and the conditions under which they had lived prior to coming under observation. An analysis of the figures clearly shows the part which domestic surroundings and occupations play in the implantation and development of tuberculosis. House-work, milling, factory work, cigar making, nail cutting, sewing, shoemaking, tailoring, waiting, and weaving supply the vast majority of the cases. A few employments carried on out of doors also show a high morbidity, notably labourers and drivers of vehicles. These occupations are of a low grade with poor wages, and consequently an undesirable mode of living; doubtless these facts explain why so many following these employments become affected with tuberculosis. Taking the figures as a whole there is a close association between the incidence of tuberculosis and indoor life, hardship, and want. In concluding his report Dr. Flick makes some apposite remarks on the results of hospital and dispensary treatment. He points out the difficulties that exist in helping the patients to find suitable occupation and in enabling them to live a life on truly hygienic lines. But at the same time he rightly insists on a further benefit which follows from instruction of the patients—namely, the educational value which results from the injunctions which have been given to them. Treatment of these poor people and prolongation of their lives give an opportunity to teach not only those who have the disease but also those about them methods by which the spread of the disease may be avoided. We have frequently laid stress on the value of fully educating the public as to the measures to be adopted to prevent the dissemination of the disease, and one of the most valuable fruits of this labour is in the saving of those who are still in health. The benefit of the work, as Dr. Flick points out, is cumulative. With every abatement of a source of infection the opportunities for new implantations grow less. Every year there are fewer foci to supervise and the facilities for the control of existing foci become better.

One of the most interesting features of this report is the insertion of several papers on tuberculosis affecting the various systems of the body as gathered from the cases and necropsies recorded during the year. Dr. D. J. McCarthy describes certain lesions of the nervous system which were observed, whilst Dr. Horace Carncross dwells on the mental attitude in tuberculosis. He states that the impression which he gained after a series of inquiries from the patients themselves as to their mental state was that the greater number were more or less depressed, though they still retained the hope of improvement or cure—that the state of "spes phthisica" he found rare, and in those in whom it was marked further questions elicited the fact that these individuals had always been blessed with a buoyancy or a sense of well-being that was well-nigh impregnable.

Dr. Joseph Walsh's article on the kidneys in tuberculosis is also worthy of study. He summarises the results of his investigations at the Henry Phipps Institute as follows: (1) positive tubercles were found in the kidneys in 58 per cent. of cases; (2) every form of nephritis was found except glomerulo-nephritis, the most common form being parenchymatous nephritis; and (3) the other most common abnormalities found were fibrous and cellular areas under the capsule which possibly represented healing or healed tubercles. These results correspond with those of other observers. Dr. J. T. Ullom, in studying the condition of the liver in tuberculosis, found that tuberculous disease of the liver existed in a large percentage of cases dying from pulmonary tuberculosis, but that its clinical recognition was only rarely, if ever, possible.

During the first year of the Henry Phipps Institute a course of lectures was given as part of the institute's educational work by men from various parts of the world. One of the lectures was by Professor E. Maragliano of Italy. A the claim made by this observer had a most important bearing upon the crusade against tuberculosis in the interest of which the institute was founded, Dr. M. P. Ravenel was sent to Professor Maragliano's laboratory to study his work and to learn his methods. Dr. L. Pearson was likewise sent to Europe to study immunisation work in animals. Their reports appear in the volume now before us and form interesting reading. In the institution further work is being carried out in serum-therapy. As yet no definite conclusions have been arrived at but from time to time the results will be reported.

We congratulate the authorities of the institute on the excellent work which is being accomplished under their auspices. The treatment and prophylaxis of tuberculosis will doubtless be considerably furthered by the patient and thorough investigations which are being carried out in the various departments.

The Operative Treatment of Prolapse and Retroversion of the Uterus. By J. INGLIS PARSONS, M.D. Durh., M.R.C.P. Lond., Physician to the Chelsea Hospital for Women. London: John Bale, Sons, and Danielsson. 1906. Pp. 90. Price 3*s.* 6*d.* net.

THE large number of operations which have been devised by different surgeons for the purpose of dealing with cases of prolapse of the uterus shows how inefficient many of these operations in reality are. Dr. Parsons has introduced a means of treating cases of prolapse of the first degree with rupture of the perineum by the injection of a solution of quinine into the base of the broad ligament with the view of producing an effusion of lymph which may subsequently become converted into new fibrous tissue. The operation is a simple and an easy one and apparently gives good results. The solution of the strength of 1 in 5 is injected by means of a special syringe into the base of the broad ligament, 60 minims being used for the left side and 70 minims for the right side. The difference in the amount required depends on the fact that there is less space owing to the presence of the rectum between the layers of the left broad ligament than between those of the right side. The operation takes but a few minutes, can be done without an anæsthetic, although the author prefers to have the patient

anæsthetised, and is applicable to patients even in extreme old age, as there is no resulting shock. In severe cases it is occasionally necessary to repeat the injection after an interval of 14 days, 40 minims being injected on the second occasion. At the end of a week the effusion is usually complete, while most of it forms in the first 48 hours. After the injection a cup and stem pessary is introduced into the vagina and is removed at the end of three days. The author has treated more than 100 patients by this method and states that the results are most encouraging. All the patients were much improved. In 75 per cent. the uterus kept up permanently. In 20 per cent. the uterus was kept within the vagina instead of being outside but was lower than normal. In 5 per cent. the prolapse recurred. These results are striking and certainly compare favourably with those obtained by most of the operative procedures commonly practised. The after-treatment is, of course, of importance, but does not require a greater length of time than is necessary after an ordinary plastic operation on the vagina. For a month the patient keeps her feet raised, staying in bed for the first fortnight. For three months from the time of the operation she is not allowed to do very much but after that time she may do as she likes. Besides describing his special mode of treating these cases Dr. Parsons discusses the general operative treatment of cases of prolapse and also that of cases of retroversion. In the treatment of cases of retroverted gravid uterus he uses an air-ball pessary in the vagina and if after 48 hours the uterus does not rise out of the pelvis he advocates abdominal section or the production of abortion. That such heroic procedures are ever necessary is contrary to the opinion of the majority of obstetric writers who have had any large experience of this class of case. The main interest of this work centres round the results of the operation introduced by the author of injecting quinine into the bases of the broad ligaments, and for this reason it is worth perusal.

Oftalmologia Clinica, estadistica de 8000 Enfermos. (*Clinical Ophthalmology, based on 8000 cases.*) Third Series. With 158 illustrations in the text and 35 plates. By Dr. ENRIQUE LOPEZ. Habana: Imprenta Avisador Comercial, Amargura 30. 1906. Pp. 229.

Dr. Enrique Lopez published in 1890 and 1895 two series of 1000 cases each of diseases of the eye observed in Cuba. The present volume presents a third series based upon 8000 cases. The book is divided into two sections, Ocular Pathology and Ocular Surgery, in each of which the various parts of the eye and adnexa are treated seriatim. Each pathological chapter is prefaced by a statistical table indicating the disease and the age, sex, and race of each patient. These statistical tables are the most important feature of the book. They are useful as evidence of the geographical and racial distribution of disease. From information given in the preface we find that the population consists of 67 per cent. white inhabitants, 17 per cent. mulattoes, 15 per cent. negroes, and 1 per cent. Chinese. Nearly 900,000 of the white population are native Cubans, 130,000 are Spaniards, and 40,000 belong to other countries. Without having made any detailed analysis of the statistics we find that the general run of ophthalmic cases in Cuba is much the same as in Europe. It is interesting to note that trachoma is very prevalent amongst the white races. The Chinese account for 4 per cent. of these cases; but it is still more instructive to observe that 7 per cent. were negroes and 4 per cent. were mulattoes, for it has been stated repeatedly that negroes in some parts of the world are immune.

The main mass of the book consists of the description and collation of cases belonging to quite common forms of ocular disease, illustrated by rough diagrams. The plates contain a large number of black and white drawings showing conditions of the fundus. Some of these are unusual and more space might have been devoted with advantage to discussing these cases in greater detail.

A Guide to Diseases of the Nose and Throat and their Treatment. By CHARLES A. PARKER, F.R.C.S. Edin., Surgeon to the Throat Hospital, Golden-square, W. With 255 illustrations. London: Edwin Arnold. 1906. Pp. 426. Price 18*s.* net.

Mr. Parker in writing this book has had before him the desire of placing before his readers in a clear manner the methods to be adopted in order to diagnose and to treat the various abnormal and pathological conditions met with in the upper air passages. The text is abundantly supplied with drawings and diagrams of the nose, its accessory cavities, the pharynx and larynx, and also of a large number of instruments. Besides these illustrations there is almost a plethora of prescriptions, which will prove of service to the practitioner by affording him ample scope for varying his treatment of cases of diseases of the nose and throat.

The work is divided into six sections. The first is devoted to methods of examination, and methods of treatment operative and non-operative; the second to complications of the upper respiratory tract in relation to general systemic diseases; the third to diseases of the nose; the fourth to diseases of the naso-pharynx; the fifth to diseases of the oro-pharynx; and the sixth to diseases of the larynx; to which is added an appendix on the notification and isolation of cases of fibrinous rhinitis. With some few minor exceptions Mr. Parker has well carried out the intentions referred to and we are convinced that his book will prove of considerable service to students and practitioners; more especially will it be of service to those who, whilst engaged in family practice, are specially interested in diseases of the upper respiratory tract.

As an example of the minor defects of the work we may allude to the procedure in the radical operation for disease of the antrum, where Mr. Parker follows the teaching of Dr. H. L. Lack in not removing the lining membrane, but omits to state that at the present time most surgeons remove every fragment.

LIBRARY TABLE.

Aneurysm of the Abdominal Aorta. By FREDERICK PITCAIRN NUNNELEY, M.A., D.M. Oxon. London: Baillière, Tindall, and Cox. 1906. Pp. 121. Price 3*s.* 6*d.* net.—This book is the author's dissertation for the degree of Doctor of Medicine in the University of Oxford. Dr. Nunneley says that with the exception of the series of the 32 cases treated at St. George's Hospital and the statistics therefrom his pages contain little or nothing that is new. He trusts, however, that the addition of another series of statistics to the literature already published may be of some use to those interested in the subject. At pp. 48 and 49 Dr. Nunneley gives a list of conclusions; they form a very valuable portion of the book. Many of the cases recorded as treated at St. George's Hospital are very interesting and they are reported in Part II. of the little volume. In Part I. the author records his collection of historical cases and he gives an excellent clinical account of the disease.

The Frog: an Introduction to Anatomy, Histology, and Embryology. By the late A. MILNES MARSHALL, M.D. Cantab., F.R.S. Edited by F. W. GAMBLE, D.Sc., Assistant Lecturer and Demonstrator in Zoology, University of Manchester. Ninth edition. London: David Nutt. 1906. Pp. 172. Price 5*s.*—The editor says that the late Professor Marshall had so complete a grasp of the difficulties which confront the student of elementary zoology and so great a sense of proportion and arrangement that no substantial alteration can increase the educational value of his work. In this, the ninth, edition Dr. Gamble has revised the chapter on development

and added some figures; he has also introduced seven additional illustrations from Professor Marshall's "Vertebrate Embryology." The little book is intended to supply the student with a practical guide to the study of elementary anatomy, histology, and embryology. The frog is the animal chosen as being easy to obtain, convenient to dissect, and a fairly typical example of the vertebrate animals. Where the frog has proved unsuitable other animals have been substituted for it. The directions for dissection are printed in italics. The letterpress is clear and the illustrations are excellent. It is a good guide and a book which we can recommend. We think that a few words as to the best and most painless method of killing a frog might be prefixed to the chapter on dissection.

Surdus in Search of His Hearing. By EVAN YELLON. An Exposure of Aural Quacks and a Guide to Genuine Remedies, Electrical Aids for the Deaf, Lip-reading, and Finger Alphabets; Employments for Deaf; Hospitals, Institutions, &c. 1906. Pp. 120. London: The Celtic Press. Price 2*s.* 6*d.*—The introduction to this little book, written by a layman, is of itself most interesting. The author, himself a sufferer from loss of hearing, clearly shows the sense of seeking expert knowledge and the insanity of hoping for aid from quacks, and at the same time points out the immorality of the publication of quack advertisements in papers professing a high standing. "Some Spiders and a Fly," the title of the first chapter, has four subsections—the Drouet Institute, the gentleman who cured himself, Aerial Medication, and Keith Harvey and Aural Batteries. This is certainly a most amusing *exposé* of various quackeries. The principal firms who have speculated in aural therapy have all been interviewed and some obtain from the author high praise. The chapters "for the hopelessly deaf" are really very good, containing sound advice and excellent precepts, and should be read carefully by those for whom they were written. The sketch of Dr. Flynn and the Aural Syndicate is most entertaining. This book has the great merit of setting forth the genuine views of a man who has left no stone unturned and who believes that his experiences may be of use to his fellow sufferers and to them we recommend it. To the professional mind it must seem full of pathos, not only conscious from Mr. Yellon's point of view but unconscious, for Mr. Yellon appears to be scarcely free from the influence of the glamour of electrical quacks.

Clinical Studies in the Treatment of the Nutritional Disorders of Infancy. By RALPH VINCENT, M.D. Durh., M.R.C.P. Lond., Physician to the Infants' Hospital. London: Baillière, Tindall, and Cox. 1906. Demy 8vo, pp. 83. Price 3*s.* 6*d.*—In a little volume of 83 pages Dr. R. Vincent gives the clinical record of 20 cases of malnutrition in infants treated at the Hampstead Infants' Hospital. Although these are naturally selected cases they not only prove that this infants' hospital is doing excellent work and that the method of feeding employed is highly adapted for the purpose of treating infantile disorders of digestion and nutrition, but they show also that for descriptive purposes and for supplying accurate and precise details of the slight modifications in food required the symbols and terminology employed are vastly superior to any other system. Real progress in the scientific feeding of infants is more likely to ensue through the accumulation of recorded experiences than by any other means, and it is only since the percentage method of feeding, with its convenient symbols and terminology, has been introduced that any trustworthy and useful records in the matter have been preserved. Dr. Vincent's series of cases is a very severe indictment on the carelessness and gross ignorance displayed by the lower-class mother in infant management, and it illustrates the enormous expense which such ignorance entails on the nation. It costs no more to feed an infant properly than to do so improperly, but the expense of undoing the work of improper feeding is incalculable. We recommend Dr. Vincent's little *brochure* to the notice of that rapidly increasing number of medical men to whom the terminology of percentage feeding is familiar.

Atlas and Text-book of Human Anatomy. By Dr. JOHANNES SOBOTTA, Professor of Anatomy in the University of Würzburg. Edited with Additions by Dr. J. P. MCMURRICH, Professor of Anatomy in the University of Michigan. Vol. I., Bones, Ligaments, Joints, and Muscles. 320 illustrations, mostly in colour. London and Philadelphia: W. B. Saunders Co. 1906. Pp. 258. Price 25*s.* net per volume.—Professor Sobotta's atlas and its accompanying text we have already favourably noticed. To Professor McMurrich has been entrusted the task of preparing an English edition, of which the present is the first volume. In the original German edition the atlas and text were separate. The two have now been combined so that the text replaces the descriptions which were appended to the plates. The atlas thus gains in compactness. Dr. W. Hersey Thomas is responsible for a very readable translation of the German text. The nomenclature adopted is practically that recommended by the Basle Committee. We have no doubt that in its new garb the book will appeal to numerous readers who have no access to dissected specimens.

JOURNALS AND MAGAZINES.

The Bristol Medico-Chirurgical Journal.—In an interesting paper in the September number of this journal Dr. Edward Fawcett criticises the account usually given of alveolar cleft palate and maintains that this condition is in reality "an attempt to restore the prognathous condition of our remote ancestors." Dr. J. R. Charles records three cases of diabetes in which secretin was tried as a remedy without any apparent good results and Dr. Maurice Faure writes of the treatment of tabetic ataxia by methodical exercises. Dr. Charles J. Whitby discusses, in a telling address delivered before the Bath and Bristol Branch of the British Medical Association, many of the social problems which face the medical profession and hails the advent of the motor as likely to result in a systematic attempt to deal with the question of dust, now a serious distributor of morbific germs.

The Birmingham Medical Review.—In the September number is published a second lecture by Professor R. Saundby on Medical Ethics, containing, as did the first, much practical wisdom and valuable advice. Mr. Alexander W. Nuthall continues his account of his experiences in fractures of the upper extremity; he records among other things that in cases of Colles's fracture 25 per cent. of sufferers remained permanently crippled, while in the majority of all cases the usefulness of the hand was impaired.

The Ophthalmoscope.—The number for October contains an interesting article on Ante-partum Ophthalmia by Dr. Rosa Ford of the Royal Eye Hospital, Southwark. Dr. Ford and Mr. Sydney Stephenson have already recorded several cases which are of interest as opening the question whether the gonococcus can penetrate the uninjured fœtal membranes or whether the cocci gain admission through natural or artificial rents in those membranes. The present case apparently indicates that infection must have taken place before the commencement of labour. The mother had had two children. The child was born 40 minutes after the artificial rupture of the membranes and eight hours and ten minutes after the commencement of labour. The house physician noted acute inflammation of the conjunctiva of both eyes. The upper eyelids were swollen and projected considerably beyond the lower. The placenta was discharged 20 minutes after the child. No douche was given before labour. The child

was born at full term and weighed 8 pounds 3½ ounces. Its position in utero was left occipito-posterior rotating to left occipito-anterior. There was no history of vaginal discharge and there was no evidence of a twofold rupture of the membranes. The course of the ophthalmia was favourable and the cure was complete in a fortnight. Dr. Ford and Mr. Stephenson take it for granted that the infective agent was the gonococcus and conclude that, accepting two and a half to three days as the usual incubation period and that from one to three days were required for the inflammation to reach its stage at birth, infection of the eyes probably occurred from three and a half to six days before birth. The explanation offered is that, as it is admitted by gynæcologists that there is spreading out of the cervix uteri, especially in multiparæ, the secretion containing the gonococci may have been washed against the fœtus by the involuntary movements of the pelvic organs, so that it was no longer protected from the infection which traversed the membranes.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

PANCREON.

(THOMAS CHRISTY AND CO., 4, 10, AND 12, OLD-SWAN-LANE, UPPER THAMES-STREET, LONDON, E.C.)

PANCREON is prepared from fresh pancreatic glands, the active principle being subsequently combined with tannic acid, the combination being proof against the action of the gastric juice. It has been administered in cases of carcinoma of the pancreas. After giving pancreon daily for six days the absorption of nutrient material is said to have been increased by 50 per cent. and the output of sugar diminished by nearly a third. Opium, too, diminished the amount of sugar, but the absorption of food material was only increased by 10 per cent.

PAPKERCHIEFS.

THE PAPKERCHIEF SYNDICATE, 34, FENCHURCH-STREET, LONDON, E.C.)

The papkerchief is a substitute for the linen handkerchief but, of course, is more hygienic in use since it can be destroyed immediately after it has been soiled. The material is well adapted for the purpose, being strong yet soft. With the papkerchief is provided a neat holder in which within a small and convenient compass a supply of papkerchiefs can be carried, while it contains a compartment for soiled papkerchiefs in which they may be temporarily placed until an opportunity for destroying them is at hand. The rôle of the papkerchief is in strict accordance with sanitary demands.

ANTITIS PEPPER.

(THE ANTITIS PEPPER CO., WOODSTOCK, OXFORD.)

Pepper is not only a pleasant flavouring agent contributing to the appetising qualities of food but is also a distinct aid to digestion, inasmuch as it stimulates the flow of the various digestive fluids. Its value in this regard, however, depends largely on its purity and quality and on account of the extensive adulteration of pepper in past years this condiment had fallen into disrepute. During recent years, however, the quality of pepper has much improved and its adulteration is rare if we accept the findings of the public analysts of the country. Antitis pepper is evidently of excellent quality and it possesses the peculiar aroma and pungency which are the essentials of this useful condiment. It is admittedly a blend of peppers and the result is a distinct success. We searched for the ordinary adulterants of pepper with negative result.

CREAM OF TARTAR.

(BLACKWELL, HAYES, AND CO., MOOR-STREET, BIRMINGHAM.)

Amongst modern frauds committed with substances intended for admixture with foods is that of substituting superphosphate or acid phosphate of lime for cream of tartar. Cream of tartar is used in conjunction with carbonate of soda "to raise" confectionery. It is beside the point to assert that superphosphate of lime is harmless for the purpose, although that may be doubtful since commercial superphosphate frequently contains arsenic. But superphosphate of lime is not cream of tartar. Two specimens of cream of tartar have been submitted to us by the above manufacturing chemists. Both proved to be of excellent quality, one containing over 90 per cent. of acid tartrate of potassium and the other, marked "Extra quality," 98 per cent.

PROTENE ARROWROOT.

(THE PROTENE CO., LIMITED, 36, WELBECK-STREET, CAVENDISH-SQUARE, LONDON, W.)

The addition of an important quantity of proteid to arrowroot makes it, of course, a really nourishing article. The fact that arrowroot starch is very completely absorbed in the intestine renders it of value in the treatment of diarrhœa. Ordinary arrowroot contains less than 1 per cent. of proteid, while protene arrowroot, we find, contains approximately 20 per cent. of proteid. The nutritive value of arrowroot is thus considerably increased.

CYLLIN SYRUP.

(JEYES' SANITARY COMPOUND CO., LIMITED, 64, CANNON-STREET, LONDON, E.C.)

Cyllin syrup is a preparation of the powerful bactericide cyllin which is intended for administration internally. It is said that when tested against a vigorous culture of the dysentery bacillus it effects a bactericidal action equivalent to a 30 per cent. pure phenol solution. As a matter of fact, it is ascertained that with five to 10 minim doses in the treatment of infantile diarrhœa the results are encouraging.

"NOURISHING STOUT."

(J. PINCHEN AND SON, THE BREWERY, SOUTH CREAKE, FAKENHAM, NORFOLK.)

We have submitted this stout to analysis and the following results were obtained: Alcohol, by weight 5·87 per cent., by volume 7·32 per cent.; extractives, 6·59 per cent.; mineral matter 0·27 per cent.; and proteid, 0·50 per cent. The stout was in sound condition and we can well believe the statement that it is brewed from malt only and that hops are the only means employed for bittering the beer. It is not so "full-bodied" as some stouts which we have examined. This stout, however, is moderate in price and offers the decided advantage of being brewed from malt and hops only.

HERCULES HUNGARIAN MINERAL WATER.

(RICHARD DAVIS, 20, MADDOX-STREET, REGENT-STREET, LONDON, W.)

The bitter waters drawn from natural sources near Budapest are now recognised as valuable therapeutic aids when employed discreetly, and for the purpose the natural waters appear to have a more favourable action than the ordinary purgative salts or sulphates supplied by the druggist. According to our analysis the Hercules mineral water contains just 40 grammes per litre of mineral salts. Of these 24·30 grammes are magnesium sulphate and 14·20 grammes are sodium sulphate. The total saline contents besides contain small quantities of sodium chloride and calcium carbonate. The purgative magnesium salts in this water predominate over the sodium sulphate. The water is an efficient yet comfortable aperient.

CATHETERPURIN.

(AGENTS: REITMEYER AND CO., 63, CRUTCHED FRIARS, LONDON, E.C.)

Catheterpurin is a lubricant specially designed for use with the catheter. It consists chiefly of glycerine which

contains a definite quantity of a mercuric salt. The advantage of this lubricant is that it remains sterile, even when exposed for several days to the air, and of course catheters and probes which have been lubricated with it remain sterile also. It is said to be non-irritating and to arrest the growth of germs in the urinary tract. Catheterpurin is soluble in water and therefore does not interfere with cystoscopic observation.

"TABLOID" HYPODERMIC TRINITRIN.

(BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

The convenience of being able to carry in the pocket, so to speak, exact doses of the powerful drug trinitrin is obvious. Its restorative effects in aortic disease and in angina pectoris are well known. The tabloid hypodermic trinitrin contains $\frac{1}{100}$th of a grain of the drug, but tabloids may be obtained containing $\frac{1}{50}$th of a grain, $\frac{1}{200}$th of a grain, and $\frac{1}{500}$th of a grain respectively, while the tabloid trinitrin compound contains in addition to $\frac{1}{100}$th of a grain of trinitrin capsicin and menthol.

New Inventions.

AN IMPROVED VACCINATOR.

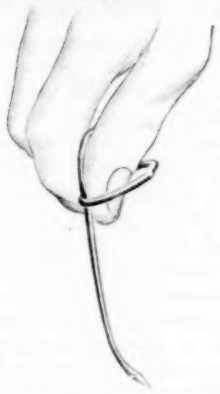
THE illustration represents a vaccinator which Messrs. Arnold and Sons of West Smithfield, London, E.C., have made at my suggestion and which, I think, embodies some slight improvements on those at present in use. Its principal features may be enumerated as follows:—(1) It combines in one instrument a lancet and a scarifier; (2) the ends are kept clean by screw-on covers of distinctive sizes so that the instrument can be easily carried either in the pocket or in the vaccinating case; (3) being of larger size than the vaccinators generally made it is more convenient, especially as the grip is fluted; (4) the body or centre is not only square, which prevents the instrument from rolling about, but is of such a size that the ends are prevented from touching the surface on which it is placed; (5) the scarifier being bent at a considerable angle enables the back of it to be used for rubbing in the lymph; (6) there is in each blade a small hole intended for use when breaking off the ends of the vaccine tube; and (7) being forged from a single piece of metal it can easily be sterilised.

Southampton. A. A. MACKEITH.

PELVIC PEDICLE NEEDLES WITH RING LEVER HANDLES.

THE long-handled pelvic pedicle needle, though it still survives, presents several objectionable features which place it in the same category as the heavy-jawed forceps formerly considered essential for pelvic surgery. Not only is its point difficult to control but its long handle is continually getting in the way and interfering with the free movement of the point of the needle. On the other hand, loose needles gripped in holders, the best type of which is Bonney's, are never entirely free from a tendency to slip, nor can the driving force be applied directly behind the point of the needle. The needles shown in the illustration have been made for me by Messrs. Mayer and Meltzer of Great Portland-street, London, W. Each needle has practically two handles, one of which is grasped during the stabbing or pushing movement which takes up the tissues (Fig. 1), while the other, aided by a lever action on the first ring, serves to make the point of the needle present in the abdominal wound to be threaded or unthreaded (Fig. 2). The grip is convenient, the force is applied directly behind the point, control is perfect, and the ring-handle is so small that it is never in the

FIG. 1.

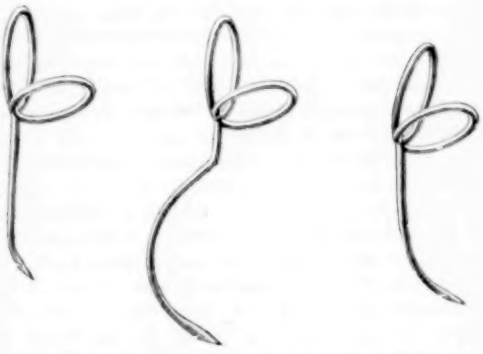


way. I have found the needles especially handy in dealing with the stump in hysterectomy and in ovariotomy, and in cystotomy to pass the guide-sutures through the bladder-wall, but there are few abdominal operations in which they

FIG. 2.

may not be found convenient. The short, nearly straight pattern (Fig. 3) is the most generally useful and the slot type is preferable to an eyed needle if a deft assistant is available to thread the needle after it has been passed

FIG. 3.



through the tissues of the pedicle and made to present in the wound.

Wimpole-street, W. W. SAMPSON HANDLEY.

THE LANCET.

LONDON: SATURDAY, OCTOBER 20, 1906.

Universities and Medical Education.

IN an eloquent and suggestive address delivered by Sir JAMES CRICHTON-BROWNE at the opening of the Medical Department of the University of Leeds on Oct. 1st some points of very general interest and of far-reaching importance were brought forward in regard to the value of the university standard of education to the community at large, especially in respect of the training of medical men. Sir JAMES CRICHTON-BROWNE pointed out that any university which endeavours to adjust its teaching and its functions in any degree to the growing and changing requirements of the community for whose benefit it is intended must adapt itself to those requirements by enlarging its curriculum and by concerning itself intimately with the life around it. He further maintained that while great and epoch-marking advances were usually made by exceptional men of originality and imaginative power, whose force of intellect must assert itself no matter how adverse were their circumstances, there were always men of ability, capable of admirable work in science and industry, whose gifts required education and encouragement, and for such men university training and technical education are essential. That the lack of such opportunities may be little short of a national calamity was illustrated by a reference to the loss of the coal-tar industries which rightly belonged to this country, since the foundation was laid by the discoveries of Sir WILLIAM H. PERKIN, of which the fiftieth anniversary has recently been celebrated. To quote from the address: "We had the raw material, we had the capital, we had the skilled labour, but we allowed the profitable trade in dyes, perfumes, and drugs, which is now said to be worth fifty millions per annum, to go to Germany, simply because we had not at the time the educational machinery to carry out the experimental research necessary to enable us to take advantage of our own discoveries. We were short of investigators, of leaders, of captains of science and industry in those days, and of the true spirit of scientific enterprise, and we are still short of them." It is these phases of university work which it is at the present time most important to encourage, for the application of scientific methods to manufactures and to matters of everyday importance is a vital necessity, and this can only be effected if encouragement is given to suitable men to devote themselves to research. Sir JAMES CRICHTON-BROWNE does not share the gloomy forebodings of pessimists with regard to the future of our country, but admits that while Germany has encouraged research by Government aid in the organisation and equipment of laboratories and in the careful selection of teachers, lecturers, professors, and investigators, England has been remiss in promoting those interests which require scientific and medical research. Again, in German universities the teaching staff is much larger in proportion to the number of students than in those of this country. To these factors the recent rapid advances made by Germany in medicine and technology must be largely attributed.

In regard to medical education and research in this country there is, perhaps, almost a greater neglect or indifference on the part of the public generally than of any other branch of applied science, and in this connexion the remarks of Sir JAMES CRICHTON-BROWNE are particularly noteworthy. He regards this neglect or indifference as astonishing when the importance to the general welfare of the adequate instruction of medical men is considered. He points out that in no other of the great professions has less been done by the State or by private philanthropy to supplement the payments of those seeking to enter it; indeed, that in many instances medical schools have been developed and supported exclusively by medical men and medical students. Owing to the increased length of the curriculum and the constantly increasing cost of equipment and maintenance of the various departments necessary to a complete medical school, those institutions which are not endowed are at, or near, breaking strain and it is difficult to see any other solution of the problem than assistance "either from the State chest or by overflow from plethoric private coffers." Some figures quoted in the address are noteworthy as illustrating the view taken of these matters in other countries; in Zürich, for example, a few years ago the medical department of the university received in addition to the fees of the students, then 245 in number, a yearly grant of £4500 from the canton which, moreover, built and maintained the buildings. This instance, in a small country, without the great resources and wealth of our own, should stimulate a like generosity in regard to our own institutions. But it is not only medical education but investigation and research in medicine and its ancillary sciences which require encouragement and pecuniary aid if we are to retain that position which we have hitherto held and of which we as a profession are justly proud. It is in research work that Germany is advancing and in which we must endeavour to overtake her, and this, Sir JAMES CRICHTON-BROWNE stoutly maintains, we can do if given the means, for, with all her advantages, we have no cause to shrink from comparison with her in medical science, while he is of opinion that our young English practitioner is quite equal, if not superior, to any continental compeer.

The remainder of this interesting address is largely devoted to demonstrating the importance of the wide scope of a university training, which should have larger aims than material advancement or commercial prosperity, for it must foster culture, encourage individuality, indeed, be universal in its range. In regard to those studying medicine, it is important that the outlook should be as broad as possible in order to counteract the "inevitably materialistic tendency" of the actual medical studies, and in this connexion Sir JAMES CRICHTON-BROWNE gives a detailed criticism of the materialistic and neo-materialistic explanations of

vital phenomena and stoutly champions the vitalistic hypothesis. It is to the first part of the address that we would especially draw attention—namely, the plea for endowment of medical education and research, for it cannot be too generally known that a crisis in the history of medical education has been reached, especially in London, and that in the public interest as well as in the best interests of the profession of medicine, endowment or monetary assistance is necessary. Medical education can no longer be self-supporting, in spite of the many sacrifices made in the past by those engaged in teaching and research at our great hospitals and medical schools. Medical science in this country can point to a splendid record of work done in the past, notably in regard to hygienic advances, with a resulting general lowering of the death-rate. If this record is to be maintained the necessary aid must be forthcoming for both medical education and research. Of the urgency of the need there can be no possible doubt, for in medicine, as in other matters, a failure to advance is tantamount to retrogression.

The Typography of School Books.

WE published in our issue of Oct. 13th, p. 988, an interesting article upon the typography of school books and college text-books. An incalculable amount of harm may be done to the eyes of children by setting them to study badly printed books, particularly, as is so often the case, when the lighting arrangements in the schoolroom are defective. It is a generally accepted opinion that the great frequency of myopia in Germany is in large part due to Gothic type badly printed. It is probable that the lighting and general hygienic arrangements in German schools are better than in our own, but there is no doubt that myopia is more prevalent. Much attention has been directed to the printing of school books in Germany and it is possible that the replacement of Gothic by ordinary Roman type will effect some improvement. We are in cordial agreement with Dr. R. T. WILLIAMSON'S remarks in the paper referred to though, as he will doubtless admit, he touches only the fringe of an extremely complex subject. Professor COHN'S test of satisfactory typography is, after all, of a very rough-and-ready order. Printing which does not reach this standard is unsuitable for teaching purposes, though it may be quite appropriate for ephemeral literature. It does not, however, by any means follow that print which satisfies Professor COHN'S test is really good enough for school books. It may be worth while to point out some of the chief features of print which affect legibility.

The character of the type employed is quite as important as its size. If a card is placed over a line of print so that the lower halves of all the letters are covered it will be found that it is nearly as easy to read as under normal conditions. On the other hand, it is almost impossible to read a printed line if the upper halves of the letters are hidden. The upper half of each letter therefore contains the most characteristic elements and should be boldly and clearly formed. The supra- and infra-linear heads and tails of the letters are comparatively unimportant and may be shortened without conspicuous loss of legibility. These features very considerably affect the appropriate depth of the interlinear spacing. Further, the lines which compose the letters must be of suitable thickness. Everyone must have experienced the difficulty of reading even large type when the individual letters are made up of very fine lines. It is necessary to use shiny, hot-pressed paper for this kind of printing and the reflection from the glazed surface detracts still more from the legibility. The general appearance of the page printed in this manner is delicate and pleasing, but the style is not to be recommended. The spacing of the letters and words for maximum legibility by no means depends entirely upon the size of the letters. It has been shown that a line is read by means of a series of lateral jerks of the eyes. At each pause a group of ten letters of average size is seen clearly. Long lines are a disadvantage, since the muscular effect exerted is greater in ordinary circumstances at the beginning and end of such lines. This affects not only the extrinsic ocular muscles but also the ciliary muscle, for the amount of accommodation required varies continually in passing from one end of the line to the other, especially if small print is held close to the eyes.

The complexity of the subject will now be fully appreciated; it has long occupied the attention of the veteran French ophthalmologist, JAVAL, whose recently published book[1] will well repay perusal. It is a matter of great interest and importance to discover exactly how bad print affects the eyes. It is unnecessary to refer to such obvious points as mental fatigue due to prolonged straining of the attention, and so forth. The influence of near work upon the development of myopia has been attributed to a variety of causes. Without entering into this discussion we may express our opinion that convergence is the really important factor. If this be so, anything which leads to books, and other things, being held very close to the eyes must be very deleterious. Faulty print is bad chiefly because it has to be brought as close to the eyes as is consistent with near vision—i.e., with maximum accommodation. The object of this procedure is to obtain the largest possible retinal image. There is no good evidence that accommodation *per se* has any deleterious effect at all; on the other hand, the exact *rationale* of excessive convergence is obscure. In so far as these remarks apply to middle-class education the application of the moral may be left for the present to the general practitioner, the parents, and the schoolmaster. It is otherwise with the education of the lower classes. Ophthalmic surgeons have in the last two or three years been appointed to examine the eyes of the children in the London County Council schools. Their duties have hitherto consisted in merely testing the eyes and distributing cards notifying the defect to the parents and urging them to seek hospital treatment. In this manner the ophthalmic hospitals and ophthalmic departments of general hospitals have been flooded with refraction cases. The question arises whether the sight-testing could not be equally well carried out by teachers after a course of training. The time of the ophthalmic surgeons might then be more profitably employed, first in instructing the teachers and then in correcting the refractions, other complaints being referred to the hospitals as heretofore. The ophthalmic surgeons should also be consulted upon the lighting arrangements in

[1] Javal: Physiologie de la Lecture et de l'Écriture. Paris: Félix Alcan. 1905.

the schools as well as the general hygiene from the ophthalmic point of view, an important branch of their duties being that of inspecting the typography of the school books and insisting upon reform if such were found advisable.

The Alleged Increase of Insanity.

THE actual increase or decrease in the frequency of the occurrence of insanity in the community can only be estimated by accurate statistics of the number of new cases occurring in each year. These, however, are not available since many cases are treated to recovery out of asylums in workhouse infirmaries, and so on, of which no enumeration is possible. The officially recognised insanity alone affords statistics enabling an approximate estimate of newly occurring insanity to be formed. Unfortunately, the statistics in this respect have been recorded by the Commissioners in Lunacy only during the last eight years. These, however, show that the ratio of first admissions to 10,000 of the population was 4·92 in 1898 and 5·21 in 1905, these first admissions having risen from 15,514 to 17,796, yielding an average increase of 326 per annum. This average increase, however, has not been steady but fluctuating. Thus in 1902 the first admissions amounted to 18,992, or 5·76 per 10,000, followed by a decline in 1903 to 5·50, in 1904 to 5·40, and in 1905 to 5·21. The period is so short that it is not yet possible to assert that this slight decrease is below or above the normal rate. These statistics, if not conclusive in regard to the total number of occurring cases of mental disorder in the population, are definitely conclusive in regard to the number of cases of sufficient intensity and duration to require asylum treatment. It is possible, of course, that a larger number of cases may be treated to recovery in the workhouse infirmaries, as evidenced by Dr. F. S. TOOGOOD'S recent presidential address at the West Kent Medico-Chirurgical Society.[1] These cases, however, are, as his statistics show, cases of recurrent intemperance, post epileptic excitement, and other cases of transient disorder that have always been largely treated in a similar way. Any diminution of admissions from this cause is much more than counterbalanced in other directions. The causes of increase in the admissions are mainly those which have led to the accumulation of lunatics in asylums. The potential lunatics, whom Dr. D. NICOLSON recently described as constituting a large part of asylum inmates, are not only retained but are admitted in much larger numbers. Many such cases, as the Census returns indicate, formerly dwelt in the care of their relatives. The movement of population from the country to the towns, the increased confidence in asylums, the lessened willingness of the relatives to care for their infirm, and their lessened ability to do so from the conditions of employment, and so on, have greatly aided this transfer of home-cared-for defectives to asylums.

The capitation grant to lunatics in asylums still exerts an increasing influence, the Poor-law officials and the police alike being more keen in detecting mental defect, so that dotards, paralytics, and weak-minded persons, whether criminal or incapable, are increasingly relegated to asylums. Compulsory attendance at school and the consequent investigations in regard to non-attendance have led to the discovery, and often to the removal to institutions, of many juvenile defectives who formerly escaped detection and treatment. These causes of increase specially affect the pauper class, and it is not surprising therefore to find that the increase in admissions is limited to this class. The admissions to private asylums were estimated by Dr. C. S. COBBOLD at 1·07 per 10,000 of the population in 1882, and since that date, according to the reports of the Commissioners in Lunacy, they have fallen to 0·70 in 1889, to 0·64 in 1896, rising to 0·76 in 1902 and falling to 0·68 in 1905. The rise after 1896 was probably due to the opening of annexes in the county asylums, in which persons could be treated as private patients at £1 per week. This has led to many patients formerly ranked as paupers becoming private patients. In spite of this and the great increase of the private-patient class in the population there has been a distinct and progressive reduction in the number of admission of private patients. The causes of increase, therefore, would seem to be limited to the pauper class. It is not possible briefly to trace the action of all the causes alluded to but one or two examples may be quoted. Senile admissions, for example, have been complained of from the moment of the operation of the capitation grant in 1874 to the present day by almost every asylum superintendent, and innumerable evidences might be adduced of the reality of this factor. Dr. J. A. CAMPBELL showed from the statistics of the Carlisle Asylum that the admissions of persons aged 70 years and upwards were only 2 per cent. prior to 1872 but had risen to 4 per cent. in 1882 and to 6 per cent. in the decade ending 1892. Many well-known superintendents have expressed the opinion that these senile admissions mainly consist of dotards and paralytics, of a class of patients who prior to 1874 were retained in workhouses or at home. These admissions, moreover, are still on the increase, the reports of the Commissioners in Lunacy showing that of the average yearly admissions per 10,000 of the population for the quinquennial periods 1893-97 and 1900-04 there is a rise of from 12·8 to 13·2 in those aged from 45 to 55 years, from 10·1 to 13·1 in those aged from 55 to 65 years, and from 11·4 to 14·8 in those aged 65 years and upwards. This is all the more striking since the same statistics show a diminution in the same ratios of admission below the age of 45 years. Thus between the ages of 35 and 45 years the decrease in the same quinquennial periods was from 12·4 to 11·9; between 25 and 35 years from 9·5 to 9; from 20 to 25 years there was a fall from 6·5 to 6·2; whilst from 15 to 20 years the ratio was stationary.

The great advance in admissions to asylums is in the age-periods above 45 years and this would seem to disprove the operation of the two chief causes to which has been attributed the supposed increase of insanity—viz., heredity and stress of modern life. Heredity has been credited by some recent newspaper correspondents with an enormous influence and they have accompanied their assertions by impracticable suggestions in regard to the detaining of lunatics in asylums, restriction of the marriage laws, and still more impossible plans. Heredity when increasing in intensity tends to appear at an earlier age and in a more degenerate form of disease;

[1] THE LANCET, Sept. 15th, 1906, p. 701.

if it were increasingly active it would therefore manifest its action at the earliest age periods, especially at the periods of puberty and adolescence. From the diminished admissions at these ages, therefore, it would appear to be proved conclusively that its influence is not on the increase. If the strife and pressure of life were increasing the production of insanity these, together with heredity, would show their effect at the age periods of the most vigorous physiological and social activity from the twenty-fifth to the forty-fifth year, yet here also we are met with directly contradictory evidence in the reduced admission-rate for these age periods. The causes leading to the increase of asylum admissions above the age of 45 years must consequently be responsible for the increase of lunacy, if such increase is indeed a fact. That this period of life is more productive of mental disorder than formerly is rendered probable by the fact that suicide has become much more frequent at these age periods. The great growth in the number of persons living above the age of 45 years, shown in the Census returns from 1841 to 1871, has not continued since the latter date, the proportion in the last three Census reports remaining nearly stationary. This excess is largely attributable to an increased survivorship of persons who under less favourable hygienic conditions would have died at an earlier age and who, it might be supposed, would furnish a larger proportion of weakly persons at these ages. Whether this is the case or not, it is certain that there is increasing difficulty for persons above the age of 50 years to obtain employment, whilst the social conditions already alluded to militate against the aged sane being maintained by their relatives. These aged persons are consequently driven into the workhouses in increasing numbers, where hopeless monotony and a diet ill suited to the defective teeth of this class produce in many irritability which leads to excitement and so to certification and removal to the asylum, where they largely augment that class of potential lunatics to which Dr. NICOLSON has recently alluded in our columns.[3] Alcoholic intemperance also has been ascribed as a great source of increase. Dr. ROBERT JONES has recently renewed attention to the fact that this may often be a symptom of oncoming insanity rather than a primary cause—an argument that might be applied to many of the assigned causes. A habit of intemperance, whether primary or secondary, is recorded in a large number of instances, and this proportion has remained fairly stationary in the statistics of insanity as a whole for many years past. The fact that since 1899–1900 the consumption of beer has fallen from 32·2 to 27·9 gallons and of spirits from 1·17 to 0·90 gallons per head in 1905–06 does not suggest that intemperance is a largely increasing cause.

The causes tending to an increase of insanity have been brought into prominence whereas those which tend to its diminution have been ignored or misrepresented. The retention in asylums of a large number of the insane who according to the earlier Census returns were outside official recognition, must have prevented to a large extent the propagation of hereditary insanity. Some recent newspaper correspondents have dwelt on the enormity of setting free or allowing to marry any person who has once been insane, nevertheless cases suffering from the more transmissible forms of insanity are retained in asylums and to this fact the reduced admissions in the earlier decades of life may be largely due. Moreover, an earlier and improved treatment of insanity has reduced the severity of the disorder. Those extreme forms which were commonly depicted in the days of mechanical restraint are not now to be found in asylums. Improved hygiene, increasing temperance, and other social improvements should also tend to the development of the sound mind in the healthy body of all but the very poorest and most degraded classes of the community; indeed, the results of these influences would appear to be manifest in the reduction of insanity in the private class. The allowance by the Government of 4*s*. per head per week for all paupers who can be certified as insane would appear from the foregoing considerations to be the principal factor in the production and consequent accumulation of official lunatics. If this were diverted to the maintenance of asylums instead of to individual lunatics, the boards of guardians being left to pay the full rate of maintenance in the asylums, official lunacy would not only cease to increase but probably would considerably diminish. This capitation grant, while beneficial in some respects, has proved disastrous in its main results. It was made for reasons of party politics and has been aptly described as being "both a crime and a blunder." National lunacy does not therefore appear to be alarmingly on the increase; on the contrary, the only trustworthy statistics, those relating to the admission to asylums of newly occurring cases, give the hope that there may even be a reduction except in cases occurring at the less valuable period of life. All which would tend to show that anything like panic is unnecessary. Society none the less should be stimulated to more strenuous efforts to reduce the vast amount of misery and suffering which are revealed by the statistics of insanity.

[3] THE LANCET, June 9th, 1906, p. 1635.

Annotations.

"Ne quid nimis."

MR. SAM LEWIS'S BEQUESTS TO CHARITY.

UNDER this heading we mentioned in our issue of Jan. 26th, 1901, p. 271, that general and medical charities would benefit largely under the will of the late Mr. Sam Lewis, a well-known and very prosperous money-lender. In 1904 his widow, Mrs. Ada Hannah Lewis, on marrying Captain W. J. M. Hill, took the name of Lewis-Hill By her death, which occurred at her residence in Grosvenor-square on Oct. 13th, reversions exceeding £1,000,000 will become available for charitable purposes. Some of the items are as follows:—£250,000 to King Edward's Hospital Fund for London; £100,000 for establishing a convalescent cottage home or hospital on the sea-coast in England for Jewish patients; £20,000 to the London Hospital for founding and endowing a ward to be called "The Ada Lewis Ward," a total of £20,000 to three other hospitals for the same purpose, and £10,000 to each of eight other London hospitals. In addition to these bequests in aid of strictly medical institutions Mr. Lewis left considerable sums for other philanthropic purposes, the principal item being £400,000 for establishing dwellings for the poor. Since her

late husband's death Mrs. Lewis-Hill has also given large sums to medical charities and for other philanthropic objects.

SOAP, ANCIENT AND MODERN.

IT is not everybody who holds the view that soap is an absolute *sine quâ non* in personal cleanliness and there are certainly those who go to the other extreme and use soap too freely to the detriment of their skins. Soap, as we know it, is after all a comparatively modern invention, but for all that there is no reason for believing that the people of ancient and mediæval times were not jealous of the cleanliness of the person. The Egyptians, Greeks, and more especially the Romans, we know, took great pains to preserve a clean body; the bath was a great institution in their day when soap, as we know it, was not in vogue but oils and fragrant compounds were used to anoint the body. The references to "sope" in the Bible probably meant fuller's earth or wood ashes or alkalies and these were employed, generally speaking, not on the body but for such operations as the cleansing of wine and oil casks or marble statues. The juice of certain plants which forms a lather was, however, employed for washing and is still resorted to at the present day in certain localities. Though soap is not mentioned by Homer, who, however, refers to the use of cosmetics in the bath, Pliny distinctly describes a substance for beautifying the hair prepared from good tallow and the ashes of the beech tree. Modern chemistry teaches us that soap is a true compound of fat (or fatty acid) with an alkali and it is evident, therefore, that in Pliny's time soap was known which could not have differed very materially in composition from the modern product. As an industry, however, soap-making on any scale was not known until some time in the seventeenth century. From that period the manufacture increased enormously, but at first the demands were for rough cleansing purposes or for certain industrial operations and not so much for the person. It is, indeed, probable that the soap of a hundred or so years ago was not adapted for personal cleansing owing to its too powerfully caustic and detergent properties acting harmfully on the skin. Nowadays soap is manufactured which is so pure as to leave unscathed the most delicate skin, so beautifully balanced are the fatty and alkaline constituents. The huge proportions which the soap-making industry has attained are a strong indication that soap has become a necessity of modern life. Only recently we have heard that the soap-makers of this country have combined their energies and their capital to the sum of many millions sterling. It is interesting to consider what are likely to be the results of this monopoly on the great soap-using public. Economy of production is, of course, the great aim of the combination but, as a rule, monopoly does not mean cheapening the ultimate product. If the constant use of soap, therefore, is a modern necessity and is a practice forced upon us in the interests of hygiene, the fact of soap becoming higher in price may reduce the hygienic standard. Again, will the monopoly affect the purity of soap? It is a fact that hitherto we have to thank competition for the purest soaps that can be made—soaps, that is, which are absolutely free from those foreign ingredients which are irritating to a delicate skin and which interfere with the soap's normal detergent properties. There is, in fact, no other article used in the domestic toilet upon which so much attention and so much pains have been bestowed to produce it pure, bland, and soothing. Will this standard of excellence be maintained? For the sake of our skins it may be hoped so. These questions, to our mind, raise another of equal importance. Is it not time, seeing how universal is the use of soap and more particularly for the purposes of personal cleansing, that its purity should be placed under some kind of control and that the public should be protected in regard to soap in much the same way as it is in regard to food and drugs? Honest manufacturers would have no objection to such a suggestion.

HOSPITAL OFFICERS AND CASES OUTSIDE.

AT a recent inquest upon a case of sudden death in Westminster the question arose as to what may be demanded of a hospital in the way of help outside its walls. The coroner remarked, in our opinion very properly, that "the hospitals are always ready to receive patients but they cannot supply doctors to the public." It is quite obvious that, except in cases of great urgency and in the immediate neighbourhood, the resident medical and surgical officers of a hospital should confine their work within the walls of their own institution. If the opposite were the case and these gentlemen were held to be at the service of the public outside the hospital then the hospital inmates would certainly suffer great risk of deficient attention and medical men outside would be inconveniently interfered with. On the occasion in the Westminster court to which we are referring a grievance was also expressed that the hospital applied to had not been willing to send an ambulance. The complaint was natural but ill-founded, for the simple reason that this particular hospital, like so many others, had no suitable ambulance to send. The question of ambulances for street accidents and for cases such as this has often been raised in our columns and up to the present London undoubtedly is deplorably lacking in any accommodation of the sort. The blame, however, is in no way to be imputed to the hospitals. It is their business to treat people brought within their walls, not to bring them there. Similarly they are in duty bound to supply good medical and surgical attention to those who are already in the hospital but in no manner of means are they liable for similar services to the public without.

A FATAL OVERDOSE OF LAUDANUM AND THE SALE OF THE DRUG.

Dr. H. R. Oswald held an inquest recently at Lewisham upon the body of a man aged 57 years, described as an independent gentleman, who was said to have died in the following circumstances. He had been in the habit of taking laudanum in order to induce sleep and instead of waiting, as was his habit, for his wife to measure out a dose he had drunk what he thought sufficient directly from the bottle, with the result that he swallowed a quantity equal to about 24 grains of opium and died. Evidence was given to the effect that the wife was able to procure laudanum for her husband without difficulty and a medical witness and the coroner, in addressing the jury, called attention to the ease with which laudanum can be bought and to the limited restrictions placed upon the sale of poisons by the Pharmacy Acts. As is well known, the law provides for the division of poisons into two classes, those included in the first being sold subject to conditions which include entry in a book of all particulars of the sale with the signature of the purchaser, or, if he be unknown to the seller, with that of someone introducing him to the seller as well. Those in the second list have to bear upon the box or bottle containing them the description of the article, the name and address of the seller, and the word "poison." It is not easy with these or with any other conceivable regulations to prevent persons who deliberately intend to take poison from doing so on account of the number of poisonous substances which enter into various manufactures or are used for agricultural and other purposes in large quantities. At the same time greater stringency in the law and in

the enforcement of it might render less frequent the deliberate and criminal administration or taking of poison in instances in which it now occurs. Nothing of this kind, however, was brought to light at the inquest referred to, which was held upon a gentleman of independent means who had apparently obtained perfectly lawful possession of laudanum in a quantity which no doubt was sufficient to kill him several times over. At present laudanum ranks as a "preparation of opium or poppies" in the second list and is sold labeled as a poison and with its description and the name of its vendor. Greater precautions might, and ought to be, enforced but at the same time it seems hardly possible to frame restrictions which would prevent such a drug from being obtained in quantities exceeding that of a fatal dose by a gentleman of independent means who is determined to possess it or for whom a physician may think it desirable to prescribe its use. When he has obtained it, or when those around him have obtained it for him, care should be exercised with regard to it; but if a person who has become reckless through habit drinks it from the bottle without even attempting to measure a dose in the usual way the result which follows is due to his own act or possibly to the act or omission of others rather than to the shortcomings of the law dealing with the subject.

PONTYPRIDD WATER-SUPPLY.

FROM time to time for several years past reference has been made in our Wales and Western Counties Notes to the extremely unsatisfactory condition of the water-supply of Pontypridd and of a portion of the Rhondda valleys. These two districts are supplied by a private company the main sources of supply of which are from the uplands at the head of the little Rhondda valley where there is a reservoir having a capacity for 200,000,000 gallons. Until about two years ago the principal complaint against the waterworks company was due to the inefficient filtration which was carried out. The water was so discoloured that the inhabitants would not use it and had recourse to wayside streams which could be, and frequently were, specifically polluted. As recently as last month the medical officer of health of the Rhondda (Dr. J. D. Jenkins), reporting upon the prevalence of typhoid fever in a portion of the district, said that in several instances evidence pointed to polluted water as the cause of the disease. The water-supply was inadequate to meet the domestic needs of the consumers, with the result that water from shallow polluted wells and brooks was utilised. In 1905 the medical officer of health of Pontypridd (Mr. Howard Davies) pointed out that the water supplied to the town possessed strong plumbo-solvent properties which acted upon the leaden service pipes by dissolving the lead, producing a prejudicial effect upon the health of those persons who drank the water. A dozen or more definite cases of lead poisoning were subsequently reported in the Rhondda valleys. In his report presented to the Pontypridd council on Oct. 9th Mr. Davies states that the supply is still very unsatisfactory. Not only were there present the usual characteristics associated with the want of filtration but the analysis of samples examined at the Cardiff and county public health laboratory indicated the presence of lead, in one case to the extent of one-sixth of a grain and in the other of 0·30 of a grain per gallon. Mr. Davies states that during the 15 months that have intervened since lead was first found in the water no steps have been taken to remedy the condition or quality of the water by the company which has treated the public with utter indifference amounting almost to contempt. The medical officer of health of Pontypridd is to be congratulated upon the frank manner in which he has placed this question before the district council. We cannot but feel, however, that the waterworks company is not alone blameworthy. What effective action has been taken during all these years by the sanitary authorities of the district? The waterworks company after all is a dividend-earning concern, but the Rhondda and Pontypridd urban district councils have had cast upon them by the legislature the distinct duty of looking after the public health in their respective districts, including the supply of pure and wholesome water to the inhabitants. Pontypridd and the Rhondda are not small districts and they are not poor. They have a combined population of 150,000 persons and a 1*d.* rate realises over £2000. So that it is not the case of a small town with a low rateable value opposing a wealthy incorporated company. Many of the members of the district councils concerned are intimately connected with the management of the large collieries either as directors or principal managers, and these gentlemen, familiar as they must be with the necessity for large outlays in the conduct of their various undertakings, are not likely to be dismayed at the prospect of litigation. It is only fair to state that the Rhondda council has tardily issued a writ against the waterworks company and at the last meeting of the council the company was sufficiently alarmed to ask for an interview, with a view, if possible, to obviate litigation. During the past six years several abortive interviews have been held, so that the council very properly decided to grant no more, except for the purpose of considering definite proposals of the company. It would appear now that the proper course would be for the Pontypridd council to join forces with the Rhondda council and to insist upon the waterworks company carrying out its statutory obligations.

EFFECTS OF EXHALING TOBACCO SMOKE THROUGH THE NOSE.

A PROCEEDING practised by many smokers consists in discharging the smoke inhaled, especially from cigarettes, through the nostrils. It is even considered by some to be essential to the full enjoyment of the flavour of the tobacco. Perhaps in ordinary circumstances no harm is done to the individual save to the sense of smell, or by extending the surface for the absorption of nicotine and so increasing its action on the nervous system and the heart. But the habit may possibly serve to disseminate disease. The surface traversed by the tobacco smoke before issuing from the nose is moistened with the natural secretion of the mucous membrane lining it, and this secretion is mingled with the fluid discharged from the conjunctival sac protecting the eyes. It therefore contains numerous micro-organisms which, floating in the air, have become attached to the moist and sticky surface of the conjunctiva, as well as those which pass over the surface of the nasal membrane. As Tyndall long ago showed, germs are completely filtered off from the air inhaled by the extensive and irregular surfaces presented by the turbinal bones. Doubtless a very large proportion of such dust consists of dead germs, of practically harmless particles of cotton, linen, woollen, and silk fabrics, of disintegrated mineral matter met with in all towns, and of the dried and pulverised excreta of horses, dogs, and other animals. A case, however, reported by Dr. J. W. Wright of Columbus, Ohio, shows that the habit of exhaling tobacco smoke through the nose may involve danger to others when it is practised by one who is already infected and the subject of at least one form of disease. Dr. Wright's case supplies a clue to the occurrence of some otherwise inexplicable attacks of hay fever. A person suffering periodically from this annoying complaint seemed by his mere presence to convey infection to many of those whose houses he visited, the means of propagation being apparently tobacco smoke which he was accustomed to exhale through his nostrils. This habit appears, therefore, to be one which should be discontinued not only in the interests of the smoker himself but in those of others. Still more objectionable though

less frequent is the emission of smoke from the ears. This implies a perforated membrana tympani, a condition often associated with diseased conditions of the tympanum that are not unfavourable to the conveyance of infection.

THE RELATION OF DENTAL CONDITIONS TO PULMONARY TUBERCULOSIS.

IN the modern treatment of pulmonary tuberculosis every care is taken to remove the patient from unhealthy surroundings and to place him under such conditions as will favour success in combating the disease. We find the patient placed as far as possible in a germ-free atmosphere, his surroundings kept scrupulously clean, and an endeavour made to maintain the nutrition of his body by plentiful food combined with physiological rest. One item is apparently often overlooked or neglected—namely, the condition of the mouth. This important question is dealt with fully by Mr. F. Lawson Dodd in a valuable paper in the Transactions of the Odontological Society.[1] Mr. Dodd has the advantage of being on the staff of a metropolitan hospital for diseases of the chest and the tale that he unfolds of unhealthy mouths in tuberculous people should arrest the attention of the medical practitioner. His figures speak for themselves. He says: "I have recently examined the mouths of the patients under treatment at Mount Vernon Hospital for Diseases of the Chest and also at their Northwood sanatorium. I saw in all 125—72 at Hampstead and 53 at Northwood. At Hampstead the result was as follows: of the 72 patients 39 were females and 33 males, but for statistical purposes six cases under 12 years of age, whose permanent teeth were not fully erupted, have been omitted. In four of these six cases there were 'dead' teeth, or exposed pulps, associated with marked oral sepsis. For the rest, in reckoning the number of teeth missing I have calculated on a basis of a total of 32 teeth for all patients over 20 years of age and 28 teeth for those between 13 and 20 years. The 35 women examined at Hampstead, all between the ages of 13 and 40 years, should normally have 1088 teeth. Of these, 179 were decayed and 282 either missing or so badly decayed as to be useless for mastication—a total of 461 missing or diseased out of 1088, or rather over 42 per cent. of these 35 patients; 16 showed the presence of 'dead' teeth or exposed pulps and in many mouths the number of such lesions was quite considerable. One patient was wearing an artificial denture which she was unable and unwilling to have removed for the purpose of cleaning. On the whole, there were signs that these patients had made some attempt to keep their mouths in a cleanly condition. The number of male patients examined was 31. These should show normally a total of 976 teeth. They ranged in age from 13 to 54 years, but were mostly between 20 and 35 years. Of this possible total of 976 teeth, 175 were carious and 263 were missing or so badly gone as to be useless. That is, of 976 teeth 438 were either decayed or missing, a percentage of 45; 19 cases had exposed pulps or 'dead' and foul teeth and stumps; 22 cases were in a very dirty and neglected condition; and in 17 mouths there was more or less well-marked pyorrhœa alveolaris. Unlike the female mouths, these, as a whole, were entirely neglected and the task of examination was often most offensive owing to their extremely septic condition. At Northwood I examined 53 patients, 28 male and 25 female. The average age of the 28 males was 25½ years. In nine cases the mouths were very neglected and dirty. Of a possible total of 870 teeth 189 were missing and 181 decayed—i.e., 370 teeth were either decayed or missing, a proportion of 42·5 of the total masticating power. The 25 female patients, whose average age was 22½ years, showed, out of a possible total of 780 teeth, 270 either decayed or missing—i.e., about 36 per cent. Ten patients had foul stumps or 'dead' teeth in their mouths, although, as was the case at Hampstead, they seemed more careful and cleanly than the male patients." An equally unsatisfactory state of affairs was recorded by Mr. H. B. Ezard[2] of the state of the teeth of the patients at a sanatorium in which he himself was undergoing treatment. He found that of 192 possible molars 12 were in action; "taking the average age 26 out of 32 teeth only eight were in action—i.e., 75 per cent. of the first process of nutrition had been lost." These data of Mr. Dodd and Mr. Ezard taken together indicate two facts: (1) the great want of efficient masticating power; and (2) the constant presence of oral sepsis in tuberculous patients. Now an important factor in the treatment, and indeed in the prevention, of pulmonary tuberculosis is the proper nourishment of the tissues. This obviously is impossible if such septic oral conditions are allowed to persist in those undergoing treatment, for, as Mr. Dodd remarks, an aseptic food-supply may be attained and milk free from tubercle bacilli may be consumed, "but all these precautions may be a delusion and a snare if the patient is chewing his food before swallowing it in such a charnel-house" as his figures demonstrate.

[1] Vol. xxxviii., p. 260.

[2] Journal of the British Dental Association, 1902, p. 60.

THE TREATMENT OF MILK IN NEW YORK CITY AND ITS EFFECT ON THE DEATH-RATE OF INFANTS.

SOME few years ago Mr. Nathan Strauss, a wealthy inhabitant of New York, became impressed by the extremely high mortality among very young children then existing in that city. He made investigations into the matter and as a result convinced himself that contaminated milk was the chief factor of the high infantile death-rate. At that time the methods of handling and of delivering milk in New York were very crude and in consequence the milk retailed in the poorer districts of the city was in a very bad state and amply accounted, especially during the summer months, for the disease and high death-rate prevailing among young children. Mr. Strauss then inaugurated milk depôts at which milk could be obtained that was comparatively free from hurtful germs. The milk at these depôts was retailed at an almost nominal price. The results of this philanthropic procedure have been most satisfactory, but before giving any details as to the favourable influence on the health of the young brought about by Mr. Strauss's system it may be as well to describe in brief the process of rendering the milk as little harmful as possible. In the first instance the milk is cooled thoroughly, is kept cool during transportation, and on arrival in New York is at once taken to the Strauss main laboratory and placed on ice preparatory to being put into bottles to go through the process of pasteurisation. No bottle of pasteurised milk is sold later than 24 hours after pasteurisation. Judging from statistics which show that since pasteurised milk has been within the reach of the poor of New York the infantile death-rate has greatly decreased, it is only fair to presume that this milk has had much to do with the gratifying result. In 1897 the death-rate amongst waifs picked up in New York and taken to the asylum at Randall's Island was 44·36 per cent. In 1898 Mr. Strauss obtained permission to instal in this asylum a complete plant for the pasteurisation of milk foods, when the death-rate dropped to about half its former figure. The New York Department of Health has recently given statistics in regard to the infantile mortality of

this summer and of the summer of 1905. Last year the death-rate among infants under one year was 229 per 1000 births, whilst this summer it was 198 per 1000 births—the smallest infantile death-rate ever known in New York. The summer just past was hotter than the summer of 1905; the mean temperature of 1905 was 74·5° F., while that of 1906 was 76·3°. By those who believe in the pasteurisation of milk it is claimed that the increased amount of pasteurised milk supplied at the Strauss depôts and by large milk dealers is chiefly responsible for the decrease in the infantile death-rate. Last summer about 3000 quarts of milk were pasteurised daily, while this year 330,000 quarts were treated by this process daily. But this is not all. The advocates of pasteurisation contend that if the pasteurisation plants had not been stopped from August 4th to Sept. 15th owing to the scarcity of ice the infantile death-rate of New York would have been lower by far. During this period of time there was an increase of the deaths of babies as compared with the corresponding period of 1905. Of course, statistics are by no means wholly to be relied upon, but there can be no doubt that the infantile mortality of New York has exhibited a progressive decrease during the past few years, a decrease which has synchronised with the establishment of Mr. Strauss's milk depôts. That pasteurisation has been the sole factor in this improvement it would be absurd to assert; other advanced sanitary measures have undoubtedly played a conspicuous part. But it would seem that pasteurised milk is far better for very young children than milk carelessly handled and delivered, and until it is possible to procure raw milk in a pure condition one or another of the various methods of treating milk now practised should be put into effect.

THE RELATIVE THERAPEUTIC VALUES OF VARIOUS OINTMENT BASES.

IN the *Journal de Médecine de Bordeaux*, 1906, No. 14, is an excellent survey of the various ointment bases which has recently been made by Dr. W. Dubreuilh with the object of showing the necessity of understanding the properties of the various media used as ointment bases in order to secure exactly the desired result. Lard melts at the temperature of the body and is readily absorbed, but it is unsuitable for mixing with compounds of mercury owing to its tendency to become rancid. Soft paraffin does not become rancid, is not acted on by soap or by alkalies, and is not completely removed from the skin by washing in cold water. It is quite an inert substance and on that account forms a useful basis for chemically active medicaments. While soft paraffin is as readily fusible as lard it differs from the latter in that it remains on the surface, whereas lard penetrates beneath the stratum squamosum. It is valuable, therefore, as a basis for superficial dressings. Wool-fat is useful for giving tenacity to too fluid ointments; it has great penetrating power, is less prone to become rancid than lard, and possesses the useful property of absorbing an equal weight of water. Glycerin of starch, made of the consistence of lard, is a penetrating, viscous basis, not prone to rancidity. It is readily removed from the skin by washing. Cerates, composed of a mixture of wax and oil, with or without water, form useful superficial dressings. When they are applied to the skin the oil is absorbed and the water evaporates, leaving behind a layer of wax. They are useful when it is required to apply a medicament to a limited area without diffusion to neighbouring parts, hence they occupy an intermediate position between ointments and plasters. An excellent basis for cerates consists of wool-fat and white wax, of each two parts, and olive oil one part. It is advisable always to employ wool-fat when water-soluble substances—e.g., phenol and mercuric chloride—are prescribed. Dr. Dubreuilh points out that the substances which are incorporated in ointments are not necessarily therapeutically active and a careful study of their topical action is worthy of attention. Inert powders—e.g., zinc oxide, starch, magnesium carbonate, talc, and kaolin—are frequently added to ointments in order to increase their consistence and to render them more persistent in action, by absorbing a portion of the fatty basis and so hindering its absorption by the skin. This is the explanation of the addition of 10 parts each of starch and oxide of zinc to 20 parts of soft paraffin in the preparation known as Lassar's paste. When the ointment contains in addition an active medicament—e.g., coal tar or sulphur—the action of the latter is prolonged by mechanical dilution with the inert powder. The inert substances mentioned above are preferred by Dr. Dubreuilh in the order named; they should be in a very fine state of subdivision. Bismuth subnitrate is sometimes used for the same purpose but it is not quite inert. Dr. Dubreuilh considers that many active ingredients of ointments—e.g., the various preparations of mercury—act by liberating a volatile substance as a result of decomposition in contact with the skin. Thus in the case of mercurials it is probable that the vapour of mercury is slowly disengaged, while in the case of chrysarobin it is of interest to note that the action of the drug is exerted around, as well as at, the point of application. From these considerations it is clear that the choice of the ingredients of ointments is by no means a haphazard proceeding. It is of interest to note the opinion expressed by Dr. Dubreuilh that in the case of volatile ingredients—e.g., mercury and methyl salicylate—the choice of a basis is of but little importance, the absorption of the active ingredient being practically the same when an impermeable basis—e.g., soft paraffin—is used, as when lard is employed as the basis. This point is of importance, since it permits the employment of soft paraffin in such cases in place of lard which so often turns rancid and so sets up irritation.

THE ANTIQUITY OF ORGANOTHERAPY.

IN an interesting fasciculus upon the extreme antiquity of organotherapeutics, Professor Hugo Magnus of Breslau is at some pains to show that the medicine of the remote past was in the main rational. Just as to-day cerebrin, a preparation of calves' brains, is used in the treatment of neurasthenia, chorea, hysteria, and epilepsy, so in ancient and mediæval times the brains of such diverse creatures as lions, squirrels, asses, owls, and ravens were dried, pulverised, and applied in cases of headache, dizziness, and convulsions, while sheep's brain was more especially employed in cases of chronic insomnia. Similarly preparations of the liver, spleen, heart, lungs, uterus, testes, prostate glands, and marrow of various beasts and birds were regarded as remedies for diseases of these several parts and for internal pains supposed to be connected therewith. Professor Magnus further shows that blood was in the earliest period of man's history regarded as a medicine or, as in the case of menstrual fluid, as a noxious drug or poison. Man, he opines, very early began to argue much as does the modern organotherapeutist who tells a patient with an insufficient thyroid gland to eat sweetbreads. It is a question, however, whether the human mind at once arrived at this train of reasoning. Many of the preparations in primordial folk-medicine would seem to point back to a time when the giving of a medicine was equivalent to the feeding of a tribal ghost or spirit. Thus preparations of the human excreta and of animal fluids, of corpses, mummies, brains, and viscera in general would seem to date from a period when life or spirit was held to

reside in blood, sputum, semen, and in the bodies, dead or alive, which contain these. The Red Indian, it is often said, eats the liver of his enemy in order to become brave. He increases his σπλάγχνα in the Homeric sense. Yet it is at least open to question whether he is not eating his enemy's liver because he believes that organ to contain some portion of the tribe-life or spirit of his enemy, which when devoured helps to build his own tribe-soul. Cannibals, who only eat certain parts of the human body, would seem to argue in this way. They eat to take in soul or life and only secondarily to acquire specific virtues such as courage.

INFECTED MILK AND CONTAMINATED MEAT IN CHICAGO.

IT is stated in the Bulletin of the Chicago health department of Sept. 22nd that there is a serious increase of typhoid fever in that city, due, it is believed, to milk contaminated with the poison by the use of polluted water in washing cans and other utensils. The health department has closed an infected milk shop and excluded milk from two dairy farms pending the bacteriological examination of their water-supplies. There were analysed in Chicago during the week ending Sept. 22nd 1102 samples of milk, 11·3 per cent of which samples were below grade. The food inspectors in the "loop district" condemned and ordered to be destroyed 7547 pounds of meat, 19,500 pounds of canned goods, and 19,950 pounds of fish. The meat inspectors at the Union Stockyards condemned and ordered to be destroyed 116,900 pounds of food. The total quantity of foodstuffs destroyed during the week ending Sept. 22nd amounted to 165,237 pounds.

PERFORATION OF THE ŒSOPHAGUS INTO THE PLEURAL CAVITY.

PERFORATION of the œsophagus not due to injury or to ulceration from a malignant growth is very rare. In *American Medicine* for September Dr. T. H. Potter has reported the following case. A labourer, aged 44 years, was admitted into hospital. He had always enjoyed good health. After taking a meal with a liberal amount of whisky and beer he was seized with sharp pain in the præcordium which was followed by great weakness and unquenchable thirst. On admission he was unable to stand. The pulse was 112, weak, and irregular; the respirations were 28, shallow, and irregular; and the temperature was 98·5° F. The skin was cyanotic, cold, and clammy. The left chest was enlarged and immobile and the intercostal spaces bulged. Movements of the right chest were shallow and the breathing was principally abdominal. Vocal fremitus was absent on the left side. On percussion the left side was absolutely dull; the right side was dull up to the fifth rib and above this slightly tympanitic. On the right side breath sounds were absent except at the upper posterior part where there was amphoric breathing. On the right side the breathing was weak below, bronchial above. The heart sounds were scarcely heard. Liver dulness extended two fingers' breadth below the ribs. The patient rapidly grew worse and about three hours after admission emphysema was observed at the root of the neck. This rapidly spread until the whole chest, upper arms, face, and scalp were involved. The eyelids became so swollen that they could not be separated. On the chest the skin was elevated four inches. The pulse rose to 120 and became imperceptible, and the temperature rose to 100·2°, but the respirations remained at 28. Death occurred 11 hours after the onset. At the necropsy, on incising the skin air escaped under considerable pressure. The left lung was collapsed and the left pleural cavity was full of dark fluid with the odour of beer and particles of food. The right pleural cavity contained dark bloody serum and there were adhesions and signs of pleurisy. There was slight effusion into the pericardium. The liver was enlarged and cirrhotic. On the anterior surface of the stomach about five centimetres from the cardiac orifice was an irregular ulcer four and a half by six centimetres. In the œsophagus was an oval longitudinal rupture three centimetres long. Its edges were well defined, bevelled at the expense of the inner coat, and necrotic. Its lower end was seven and a half centimetres above the diaphragm. Opposite its upper end was an ulcer about five millimetres in diameter. About one centimetre above the cardiac orifice were two ulcers of about four and six millimetres in diameter respectively. The conclusion was drawn that spasmodic contraction of the œsophagus was provoked by the meal and caused rupture of the œsophagus through an ulcer into the pleural cavity.

A SAD CASE OF NEGLECT OF CHILDREN.

A WIDOW named Harper was sentenced recently at Stratford to two months' imprisonment for neglecting her four children in a manner likely to cause them unnecessary suffering or injury to their health. They consisted of a boy aged 12 years, two girls aged respectively seven and five years, and a girl ten months old, and the evidence showed that they had been found on more than one occasion in their mother's house quite naked, filthy, and verminous. According to medical evidence they were badly nourished and the youngest suffered from rickets and eczema. The relieving officer said that he had never seen a dirtier woman than the defendant or a place in a more deplorable state and upon one occasion she had called upon him in an intoxicated condition. In the circumstances the penalty inflicted was evidently richly deserved, but a serious aspect of the case with regard to which no charge was made and no penalty was imposed is to be found in the statement of the woman, confirmed by other evidence, that her work consisted in preparing "sarsaparilla wine." This she did in the premises described for a "City firm." It was said by a sanitary inspector that there had been difficulty in tracing the source of her employment, but it had been done and the employment had been stopped. If this means that only the work done by the woman in question in the preparation of sarsaparilla wine was put an end to the imprisonment inflicted upon her would no doubt have achieved the same object, and we are left to conjecture that others will do the work in her stead. It is, however, both dangerous and unnecessary that the preparation of any kind of food or drink should be performed by workers of the class to which she belonged in their own homes, even when their rooms are kept reasonably clean from their point of view. It is a matter of regret, therefore, that the name of the "City firm" who allowed it to be so done should not have been made public with all the circumstances of the manufacture of the beverage.

MALTA FEVER WITH ULCERATION OF THE SMALL INTESTINE.

IN the *Journal of the Royal Army Medical Corps* for August Lieutenant L. Bousfield, R.A.M.C., has reported a case of Malta fever with ulceration of the small intestine, which is of considerable interest for two reasons. Ulceration of the intestine is rare in Malta fever and in the early stages of the disease the diagnosis from typhoid fever is often difficult. Hughes in his monograph on Malta fever states that one of the differences from typhoid fever is the absence of ulceration of Peyer's glands. He describes patches of congestion as occurring throughout the small intestine but states that Peyer's patches are unaffected except where there is extreme congestion of the surrounding intestinal wall and that "in no cases was ulceration present." During the last five months several cases of Malta fever have come under Lieutenant Bousfield's observation in which there was more or

less profuse hæmorrhage from the intestine. One patient passed about a pint of blood in 36 hours. As the mesenteric glands are often enlarged in Malta fever and the micrococcus has been found in them it seems probable that Peyer's patches are attacked as in typhoid fever and that they sometimes ulcerate. The following case is an example. A soldier arrived in Malta in good health on Sept. 9th, 1905. On Nov. 22nd he was admitted into hospital with severe headache, pain in the lumbar region, and a temperature of 102·8° F. A few râles and rhonchi were found in the lungs and the abdomen was distended. The spleen could not be felt. The serum gave the reaction for Malta fever and did not give the reaction for typhoid fever. The temperature remained high—from 103° to 105°—with only slight morning remissions. The pharynx became intensely red and congested and there was ulceration of the lips and gums. The sputum was copious and contained red and white blood cells, mucus, and many cocci. Epistaxis was troublesome. Ten days after admission albumin was found in the urine. The patient became very restless and there was muttering delirium. On the twelfth day after admission he rapidly became worse and died. Malta fever closely resembles typhoid fever and the two diseases may run concurrently. Therefore the abdomen and stools were carefully watched. But no spots were seen and the spleen was not felt until the day of death. At the necropsy the lungs were found to be very engorged and œdematous, especially at the bases. There were extensive subperitoneal parietal hæmorrhages. In the stomach were several small submucous hæmorrhages. The spleen was enlarged, very congested, soft, and friable. The kidneys were actively congested. The mesenteric glands were enlarged and soft. In the small intestine were eight ulcers situated between 18 and 36 inches from the ileo-cæcal valve. The largest was ten millimetres long and six millimetres broad; the smallest was four by three millimetres. The ulcers were mainly opposite the mesenteric attachment. Some appeared to correspond to Peyer's patches, others to the distribution of the blood-vessels. The margins were raised and infiltrated, the edges were sinuous and shelving, though in parts undermined. The bases were not thickened; on the contrary in two ulcers only the peritoneum and subperitoneum were left while in others the muscular coat was exposed. The adjacent peritoneum was normal. The large intestines showed only one submucous hæmorrhage in the sigmoid flexure. The conditions suggested typhoid fever complicating Malta fever. Portions of the spleen and some enlarged mesenteric glands were therefore bacteriologically examined. The spleen yielded pure cultures of the micrococcus Melitensis. Two cultures from the mesenteric glands were sterile. Four others contained the bacillus mesentericus and the bacillus coli. One colony of the micrococcus Melitensis was obtained from the six cultures.

"DEATH BY MISADVENTURE."

AN inquest was recently held by Mr. T. Foster Barham at Chilton, near Bridgwater, touching the death of Enoch Browning, aged 57 years, mate of the ship *Severn*. The deceased was seen by the captain of the vessel at 5 50 P.M. on Sept. 25th. At that time he was leaving the Chilton brickyard wharf to purchase some groceries in the town. Between 9 and 10 P.M. he had a pint of beer at an inn. He was then quite sober. At 5 50 A.M. on Sept. 26th a labourer discovered the body of Browning lying between the river's bank and a stack of drain-pipes; it was dead, cold, and stiff. There were blood and hair on the pipes. The captain deposed that the deceased, whom he had known for 25 years, was generally a sober man and that he had never known him to faint or to have a fit. A police constable who arrived on the scene about one and three quarter hours afterwards said that he made an examination of the body and found that "on the left side of the head, just above and behind the ear, was a large wound and the hair had been removed. There had been much loss of blood. Such a wound might be caused by a blow against the pipes. The mark where the hair was on the pipes was 15 inches below the level of the path." The jury returned a verdict of "Death by misadventure." The report of the inquest in the *Bridgwater Mercury* of Oct. 3rd makes no mention of medical evidence and therefore we presume none was called. The facts that the captain of the *Severn* heard no noise during the night and that his dog was not aroused, in our opinion, prove very little, for it is clear that the deceased met his death by violence. A fatal blow in the position described, dealt stealthily by another, would probably cause no more disturbance than one received accidentally. Whether the deceased died from loss of blood or from fracture of the skull and injury to the brain was not elicited. We cannot help expressing our regret that a necropsy was not held and the evidence of a medical man requisitioned. As the case stands the verdict of the jury would appear to have been mainly based on the expert testimony of a policeman. There are instances in which death from violence is obviously the result of accident, even in the absence of eye witnesses of the fact, but we cannot think that the one under consideration falls within this category. An open verdict would have been preferable to that returned, but why should not much doubt have been dispelled by more trustworthy means than those employed?

THE ACLAND HOME, OXFORD.

ON Saturday, Oct. 13th, the new wing of the Acland Memorial Home, Oxford, was opened by Professor William Osler, the Regius Professor of Medicine. The new wing contains sterilising and anæsthetic rooms, rooms for patients, and an operating theatre; verandahs are also supplied whereon the patients may obtain the benefit of the open air. The total cost of the building amounts to £2500 and the enlargement is mainly due to the exertions of Miss Acland who has herself collected a sum of £752. Among those present were the Vice-Chancellor (Mr. T. H. Warren, President of Magdalen), Sir George Dashwood, Vice-Admiral W. Acland, a large number of heads of houses, and many medical men from Oxford and the neighbourhood. Mr. Montague Wootten, the chairman of the committee of the home, concluded a short speech by asking Professor Osler to open the new wing. Professor Osler commenced by reading a letter from the Queen to Miss Acland congratulating her on the success of the undertaking and ending with an expression of Her Majesty's every good wish. In one of his delightful speeches he then referred to three groups of cases which were much more suitable for treatment away from home than at home. These three groups were surgical cases, enteric fever, and a certain number of nervous diseases. With regard to nervous cases, he said that the home was a great boon, and, in fact, there were few of them who would not be greatly improved in their minds and in their bodies if—just as a good Catholic for his soul's sake went into a retreat for two weeks in the year and thought only of things on the other side—they went into the home for two weeks where they could be in peace and quietness. There were also local conditions which made such a home very necessary. One of these was the presence of some 3000 undergraduates in Oxford, for whom it was very important that there should be a place where in the event of serious illness they would receive the best possible care. Professor Osler next gave a short historical retrospect of the home and concluded by declaring the building open. The Rector of Exeter and others having spoken, a vote of thanks

was passed to Professor Osler and the visitors afterwards proceeded to inspect the home. We take this opportunity of adding our congratulations to those already expressed in so many quarters to Miss Acland upon the success which has attended her efforts. The late Sir Henry Acland's love for anything connected with Oxford is too well known to need repetition, and nothing would have given him greater pleasure, had he been still here, than to see the additions to the home in which he took so great an interest.

THE Department of Public Health, Queensland, in a plague bulletin dated from Brisbane, Sept. 1st, states that no case of plague had occurred in Brisbane since June 20th but that 2 suspicious cases had been reported by the medical officer of Cairns, the one being a female, aged 40 years, and the other a female, aged 23 years. A dead rat had been found on the premises where the first-named had been living ten days previously to the onset of her illness. In a bulletin dated Sept. 8th these 2 cases were reported as having been definitely ascertained to be cases of plague; and 2 further cases had been reported during the week ending Sept. 8th, one of which had proved fatal on Sept. 6th. At the date of the bulletin no further cases had occurred and only one plague-infected rat had been found—namely, the one mentioned in respect of the woman aged 40 years.

A COURSE of eight lectures on the Carbohydrates and their Relations to Living Organisms will be given in the Physiology Department of University College, London, by Dr. S. B Schryver, D.Sc., Ph.D., lecturer on Physiological Chemistry to University College, on Wednesdays at 5 P.M., beginning on Wednesday, Oct. 24th. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards, and to such other persons as are specially admitted.

AT a meeting of the council of the county borough of Sunderland, held on Oct. 10th, it was decided that water, milk, and other foods should be examined bacteriologically and an agreement has been made with the University of Durham College of Medicine for the execution of the work.

THE first instalment of the Reports of the Advisory Committee for Plague Investigation in India has been issued as an extra number of the *Journal of Hygiene*. We hope to deal with the report at length in a future issue.

THE SEMMELWEIS MONUMENT IN BUDAPEST.

THE last day of September, 1906, will long be remembered by those representatives of the medical faculty of the world who gathered in Budapest to do honour to Semmelweis. It was an ideal day from the point of view of weather and the enormous crowd which gathered in Elizabeth-square at midday to witness the unveiling were most enthusiastic. But prior to this in the Aula of the University at 10.30 A.M. there was a meeting of distinguished personages representing many nations. Among those present were Count A. Apponyi, the Minister of Education, and other members of the Ministry; Dr. Chyzer, councillor of the Medical Department; Dr. Szabó, rector of the University of Kolosvár; Dr. Képes, director-general of the Army Medical Department; and representatives from the Hungarian Academy of Sciences and other learned bodies.

The visitors present from foreign countries were as follows: from Vienna, Professor Schauta and Professor Chrobak, Royal councillors; Professor Hertzfeld, Professor Halban, Professor Mandl, Professor Laczkó, Dr. Fischer, and Dr. Schürer von Waldheim, the biographer of Semmelweis; from Basle, Professor Herff. von Salis; from Breslau, Professor Asch; from Copenhagen, Professor Fribiger; from Freiburg, Professor Wekerling; from Genoa, Professor Rossi; from Rome, Professor Pestalozza; from Messina, Professor Guzzoni del Ancerini; from Jena, Professor Schultze; and from London, Dr. Albert T. Duka, D.S.O. The widow and sister of Semmelweis and representatives of other families connected with him were also present. The proceedings were opened with a speech by the Rector Magnificus, Councillor Ajtai, who spoke of the great respect in which the memory of Semmelweis was held by the grateful citizens of his native city. Professor Bársony spoke in the name of the professors of the Faculty of Medicine of the University of Budapest. The speeches of the visitors from abroad then followed, Professor Schultze being the first, succeeded by Professor Schauta, Professor Fribiger, Professor Pestalozza, Professor Ancerini, Professor von Salis, and Dr. Duka.

The meeting then adjourned to Elizabeth-square where after the singing of the Hungarian National Anthem the statue was unveiled by Professor Tauffer. This beautiful statue is made of Carrara marble and is the work of the sculptor Strobl; it represents Semmelweis standing on a pedestal which is surrounded by naked figures of children supporting a wreath, while on the base sits a woman with an infant on her knee, looking up into the face of the statue with an expression of deep gratitude; the model for the woman was the sculptor's wife, Madame Strobl. Professor Tauffer in his capacity of President of the executive committee delivered an address dealing with the history of the movement which led up to the memorial. He said that in 1891 the faculty of medicine of the University of Budapest initiated the idea of the immortalisation of the memory of Semmelweis in order to give a visible token and expression of the debt due to the founder of the antiseptic treatment of child-bearing women and the discoverer of the etiology of puerperal fever. The first practical result of the movement was the return of the ashes of Semmelweis, which had found a resting place on foreign soil, to the Kerepes Cemetery, Budapest where a special tomb had been set apart for them. Following this the medical men of his native land erected an elaborate tombstone, after which an international appeal was made for the superb monument which now finds a place in Elizabeth-square. Steadily the money came in. Rich and poor alike enjoyed the privilege of erecting the statue, for rich and poor alike had enjoyed the boon of his discovery. The movement extended beyond the bounds of Hungary to all civilised states, seeing that the discovery and teaching of Semmelweis had become the public property of the medical science of the entire world and of humanity. In 1894 the members of the International Sanitary Congress meeting for its deliberations at Budapest placed a magnificent wreath upon the tomb of Semmelweis in the cemetery. Professor Tauffer then formally handed over the statue to the mayor as the representative of the municipality of Budapest. After wreaths had been placed on the statue by the family of Semmelweis and the representatives of learned societies the proceedings terminated with the singing of the Hungarian National Anthem. Following this a commemorative tablet was unveiled at the house in Buda in which Semmelweis was born.

Professor Bársony and Professor Tauffer gave a dinner to some 200 guests at the Park Club at which all the foreign visitors were present.

BRITISH MEDICAL BENEVOLENT FUND.

AT the September meeting of the committee 16 applications for help were considered and sums amounting to £137 were voted in relief. One case was passed over and the following is an abstract of those which were assisted:—

Widow, aged 58 years, of L.R.C.S. Irel., L.S.A. Dub., who practised in Staffordshire. Small capital available at husband's death has been spent on the education of children who are at present barely self-supporting. Recommended by Dr. A. M. Edge (honorary local secretary). Voted £10 in two instalments.

Daughter, aged 58 years, of late M.R.C.S., L.S.A., who practised in Derbyshire. Has been given a home in return for services by a relative recently deceased, but is now practically destitute. Health very feeble. Recommended by Mr. W. J. Cooper. Voted £12 in 12 instalments.

Daughter, aged 35 years, of late F.R.C.S. Eng., who practised in London. No income and incapacitated by tuberculous disease of the right shoulder-joint. Relatives only able to give very slight assistance. Recommended by Professor Howard Marsh (vice-president). Voted £12 in two instalments.

Wife, aged 65 years, of M.D., Trinity College, Dublin, who has practised for 25 years in Ireland but for the last seven years has been confined in an asylum. During this time applicant has earned her living as companion or housekeeper. At present receives a home in a boarding house in exchange for services, but is obliged to leave on account of her age. No income. Recommended by Dr. H. M. Macnaughton-Jones. Voted £12 in 12 instalments.

Daughter, aged 60 years, of late M.R.C.S., L.S.A., who practised in Staffordshire. Maintained herself for 20 years by teaching and was then matron at an institution but was obliged to give up the post on account of indifferent health. No income. Recommended by Miss Cumming. Voted £5.

L.R.C.P., L.R.C.S. Edin., aged 49 years. Has practised in a small town in Scotland for 15 years, but is now almost incapacitated by spastic paralysis. Relieved twice, £24. Recommended by Dr. G. S. Middleton. Voted £12 in 12 instalments.

Widow, aged 52 years, of M.R.C.S., L.S.A., who practised in a London suburb for 30 years, but whose means were exhausted by a long illness before death. No income. Five children; two dependent, the others barely self-supporting. Applicant endeavours to maintain herself by taking boarders. Relieved twice, £20. Recommended by Sir Anderson Critchett (vice-president). Voted £10 in ten instalments.

Daughter, aged 60 years, of late M.R.C.S., L.S.A., who practised for many years in Essex. Used to keep a school but was obliged to give it up after the opening of a high school and has since found great difficulty in supporting herself. No income; indifferent health. Relieved once, £10. Recommended by Dr. J. H. Galton. Voted £10 in ten instalments.

Widow, aged 31 years, of M.B., C.M. Glasg., who practised in county Durham. Two children, aged ten and nine years respectively, both at institutions. Income less than £20 a year; health at present too delicate for regular work and applicant is being temporarily housed by a relative. Relieved twice, £15. Recommended by Dr. J. Elliott. Voted £5.

L.R.C.P. Edin., M.R.C.S. Eng., aged 58 years. Practises in the South-West of London but earnings are very small owing to competition and indifferent health following an attack of hemiplegia. Seven children, aged from 20 to three years, only the eldest being self-supporting. Relieved three times, £22. Recommended by Mr. Hugh R. Ker. Voted £5.

Daughter, aged 50 years, of late M.R.C.S., L.S.A.), who practised in London. No income; has maintained herself by nursing but is now quite incapacitated after rheumatic fever and is dependent on a niece who keeps lodgings to support a consumptive brother. Relieved three times, £27. Recommended by Dr. R. J. Ryle. Voted £10 in two instalments.

Daughter, aged 31 years, of late M.R.C.S., L.S.A., who practised in Yorkshire. Has done some nursing but during the last two years has undergone three or four operations and at present is quite unfit to earn her living. Slight help from relatives and the Gentlefolk's Aid Society. Relieved twice, £7. Recommended by Dr. E. Hyla Greves. Voted £12 in 12 instalments.

Widow, aged 52 years, of L.R.C.P. Irel., M.R.C.S. Eng., who practised in Liverpool. No income; no children. Endeavours to support herself by nursing but earnings insufficient for maintenance. Relieved four times, £20. Recommended by Dr. J. Bligh. Voted £5.

Daughters, aged 42 years and 34 years, of late L.S.A., who practised in Essex. Both incapable of earning a living on account of physical infirmities and dependent on a mother whose only income is a small pension. Relieved twice, £24. Recommended by Dr. R. T. Nichols. Voted £12 in 12 instalments.

Widow, aged 65 years, of F.R.C.S. Eng. Supported herself for many years by keeping a small shop but is now unable to work and is entirely dependent on an annuity from this Fund. Voted £5 as a special grant on account of ill health.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Oct. 11th, Mr. HENRY MORRIS, the President, being in the chair.

It was resolved, on the recommendation of the museum committee, to grant an honorarium of £100 to Mr. William Pearson, prosector, in recognition of his valuable work and of his having completed 50 years in the service of the College.

It was decided that a revised edition of Part I. (Man) of the Osteological Catalogue should be published.

A draft copy of the annual report of the Council was submitted and approved. It will be presented to the Fellows and Members at the annual meeting on Thursday, Nov. 15th.

The President was re-elected a member of the committee of management.

The Council nominated as fourteenth Jenks scholar Mr. Godfrey Alan Walker, till lately a pupil of Epsom College and now a student at the London Hospital.

A letter was read from Mr. Edmund Owen, reporting his attendance as the representative of the College at the Quatercentenary celebrations of the University of Aberdeen and stating that he had presented the address of congratulation from the College and that he had had the honour of receiving the degree of LL.D. from the University.

It was resolved to appoint a committee to consider and to report on the standing rules and regulations of the Council and to submit a revised copy.

ELECTION OF DIRECT REPRESENTATIVES UPON THE GENERAL MEDICAL COUNCIL.

WE have received the following communications for publication, in reference to the forthcoming election of Direct Representatives on the General Medical Council:—

TO THE MEDICAL PRACTITIONERS OF ENGLAND AND WALES.

I had decided to withdraw my name from the list of applicants for the election of three Direct Representatives on the General Medical Council, and this decision has been mentioned in the *British Medical Journal* for Oct. 6th. The advice of professional friends, on whose judgment in this matter I rely more than on my own, has induced me to reconsider the question, and I now beg to offer myself as a representative of the profession on the General Medical Council.

For 13 years previous to 1888 I was a general practitioner at Hartlepool, and as medical officer to large clubs and friendly societies and medical officer of health to the borough and in private practice also, I obtained an extended experience of the requirements of ordinary everyday practice and practitioner. For the last five years I have been president of the Northumberland Medical Association now merged with the North of England branch of the British Medical Association and known as the Northumberland Committee. Its functions are limited to the advancement of the interests of its members directly, and indirectly of the medical profession in Northumberland. The work that has been done by us here, especially in increasing the fees for contract practice, has satisfied me that, if we know what we want and the whole profession coöperates in any reasonable demand, it will not, because it cannot, be refused.

There is one point on which I must offer a strong opinion. It has been urged that only those in practice as general practitioners should be appointed to fill the vacancies on the General Medical Council. It seems difficult to believe that this view can be held by any but a minority of the 20,000 voters on whom the result depends unless the invaluable services rendered by Sir Victor Horsley can be left out of consideration. In this part of the country we derived very great advantage from the help and coöperation of consultants and I feel strongly that to divide the profession into independent sections can only end in disaster. The coöperation of all is needful if any real and permanent improvement in the conditions of medical practice is to be obtained. I am acquainted with the work that has been done by the General Medical Council of late years and am fully in sympathy with the efforts that have been made to suppress disreputable forms of practice. Without, however, a new Medical Act passed on the lines adopted by the British Medical Association, I am of opinion that the chief evils from which the profession now undoubtedly suffers cannot be satisfactorily dealt with.

Yours faithfully,

Saville-row, Newcastle-on-Tyne. RUTHERFORD MORISON.

To the Editors of THE LANCET.

SIRS,—In forwarding a copy of Mr. Rutherford Morison's address we should like at the same time to invite those cognisant of his magnificent work for the general practitioner in this part of the country, and who are wishful to see his abilities placed at the disposal of the whole profession, to send us their names to be placed on a general committee. We already have promises of very influential support from various parts of the country but would take as a favour an early reply to this general invitation.

We are, Sirs, yours faithfully,

EDWARD JEPSON, ALFRED COX, } Honorary Secretaries, *pro tem.*

Cotfield House, Bensham-road, Gateshead, Oct. 15th, 1906.

To the Editors of THE LANCET.

SIRS,—Will you please allow me to add (which I omitted in my address) that I have been adopted by the following societies as their candidate for election to the General Medical Council:—the Association of Members of the Royal

College of Surgeons of England, the Incorporated Medical Practitioners' Association, and the Association of Physicians and Surgeons of the Society of Apothecaries of London?

I am, Sirs, yours faithfully,

JOSEPH SMITH, J.P., M.R.C.S. Eng., L.M., L.S.A. Lond., D.P.H. Camb.

Oct. 15th, 1906.

To the Editors of THE LANCET.

SIRS,—I read with interest the election address of Dr. Leonard Strong MacManus, a candidate for election of Direct Representatives upon the General Medical Council, published in your issue of Oct. 13th. In one portion of this address Dr. MacManus says: "I am familiar with club, contract, and dispensary work, and knowing only too well how we are sweated in these directions, I have, and would again, support any duly considered scheme to enable us to obtain fair payment for our services."

Well, charity begins at home, and there is in Battersea a "provident dispensary," I believe the largest in London, if not in England. Its membership numbers between 20 000 and 25.000 and its contributions (painted in bold letters on the walls of its principal building in High-street Battersea) vary from ½*d.* to 2*d.* per week. There are some members belonging to it who rent houses at £35 a year, exclusive of rates and taxes, and it is the opinion of the bulk of the members of the medical profession in the locality that it is grossly abused. The work of this huge organisation is divided between 12 or 13 of the local practitioners, and Dr. MacManus is one of the most influential of these. Some of these practitioners have on their books between 6000 and 7000 members, and receive a remuneration of between £600 and £700 a year! And, moreover, to say the least, it is a bit difficult for other general practitioners in the locality to find themselves amongst the favoured few who control this supposed charity; and it is still more difficult for them to compete with such a monopoly and consequently each day they find their oldest patients being absorbed by this institution.

Now I would suggest that a couple of dozen of the general practitioners whom Dr. MacManus wishes to represent—especially those engaged in London working-class practices—should visit Battersea and go amongst the general practitioners there and ask their opinon as to this dispensary. It would be interesting to hear their views and also to know how they would vote at the forthcoming election. I have now, personally, no interest in any Battersea practice and write quite impartially and only because I think it right and reasonable that expressions of opinion on the merits and demerits of the situation should be made by medical practitioners at a period like the present, when an election of some importance to the profession is pending.

Trusting you will find space in your columns for this letter, I remain, Sirs, your obedient servant,

Wandsworth-road, S.W., Oct. 16th, 1906. M. S. HARFORD.

At the first meeting of the Wimbledon and District Medical Society for the session 1906–07, held on Oct. 12th, Dr. MacManus attended and addressed the members. A motion expressing confidence in Dr. MacManus and promising him the support of the members was unanimously carried.—At a largely attended meeting of the South-West London Medical Society held on Oct. 10th a similar resolution was passed.

THE DUTIES OF PUBLIC VACCINATORS.—At a meeting of the St Columb (Cornwall) board of guardians, held on Oct. 11th, a letter was read from the Local Government Board in reference to certain complaints which had been made by its inspector against one of the public vaccinators of the union. The circumstances have been already alluded to in THE LANCET of Sept. 22nd, p. 788. The communication stated that the letter of the public vaccinator was very unsatisfactory. He did not deny the accuracy of the representation as to his giving certificates of postponement upon slight grounds and the Board could not accept his statement as to his inability to furnish information required in connexion with the certificate of insusceptibility to vaccination which he had given for his own child. In conclusion, the Local Government Board urged the guardians to reconsider the appointment of this officer. After some discussion it was decided by 18 votes to 7 to inform the Local Government Board that the guardians would do nothing further in the matter.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 18th, 1828.

I must premise that an erroneous opinion has very generally received more attention than it deserves, because it has been attributed to Mr. Hunter. He is reported to have said, "I am convinced that people get awry by the endeavours of parents to keep them straight; that parents were continually watching their children, and making them sit in a particular attitude, and that these children so watched, when unobserved, would naturally sink into another way of sitting to have a little ease. Besides, *that is keeping in action one set of muscles and not allowing the other to act at all, whereas, every set of muscles should be kept in action.*" He said "you don't see boys grow awry anything like so often as girls, nor yet girls in a low situation in life."

Again, Mr. Hunter said, "If it be necessary, from fashion and so on, to carry the person in any particular manner, this habit may be attained at any period of life, and quoted this instance: you see a ploughboy, while ploughing at the plough, an awkward fellow; but he enlists; then he is put under a drill sergeant; and then observe with what care and precision he marches, after he has been under the care of that sergeant for a time. Now this shows that, if the body is well formed, it may carry any fashion, but there is certainly no counteracting nature."

Mr. Hunter said, "you should dress your children lightly and loosely, let them run about and exercise all their muscles equally, and then they would not grow awry. To this parents have a sort of objection: which is, that children will grow round shouldered, and so on. Now I have endeavoured to refute that absurdity, by saying, that, if children were suffered and allowed to do as they please, the body would be formed according to that pattern which nature designed it should be."

I have placed these opinions together, because they were the opinions of Mr. Hunter, and, as such, are entitled to much respect. Trusting to my own memory for correctly remembering these opinions, as I heard him deliver them, I think there were shades of distinction between his real opinions, and what are here given as such; yet, with this abatement, they may be taken as the best opinions that were entertained upon these subjects in those days.

That the drill sergeants, in Mr. Hunter's time, frequently transformed very awkward, clumsy, and even stupid, clowns, into smart, active, and clever soldiers, is undoubtedly true, and proves that the opinion of those who say that such defects cannot be cured even after the patients have arrived at maturity, is erroneous. In those days I passed much of my time on the south side of St. James's Park, where I gained both knowledge and amusement, by observing the effects that were produced by forcing military knowledge into raw recruits.

However awkward, clumsy, or ill-formed, the recruit might be, there was but one process used to convert him into a well-made active soldier: the mode of conducting that process might vary according to circumstances when it was applied to different men, but its essential qualities were, in every case, the same; that was, to force or strain himself by whatever exertion it might be necessary for him to make, till he had twisted himself into that shape and position which his sergeant determined that he should assume; a task which was very difficult, and attended with great pain and difficulty to the unfortunate recruit. I have seen a man undergoing this discipline roaring with pain, like an unfortunate child that had been severely beaten. Yet I always saw that the sergeant was victorious, and converted his pupil into an effective soldier; his recipe was infallible; it was punishment, or, at least, the fear of it. The recruit knew full well that if he did not do what he was directed to perform, he would certainly be punished according as he was deficient, and the business did not end here; for, if he again failed in executing the required manœuvre, he would be again punished, and so on, till he did execute what was required of him: this was an infallible method of fixing knowledge in the minds of those who were obliged to learn: but as it cannot be applied to the sons or daughters of

gentlemen, it cannot be of the least use on the occasions that we are now contemplating.

Mr. Hunter's opinion, that "if it be necessary, from fashion, and so on, to carry the person in any particular manner, this habit may be attained at any period of life," if it be true, it is only in a very limited sense, and the circumstance that he mentions to prove the correctness of his opinion directly proves its fallacy; I mean the effect that is produced by the drill-sergeant, who transforms awkward countrymen into clever soldiers; and, as the investigation of this opinion will lead to a knowledge of the facts which ought to be understood, I trust that I shall be excused for employing some time in the investigation. . . . . .

The fallacy of Mr. Hunter's opinion seems to have been this: he saw that the strong arms of necessity and power compelled the most awkward of men to transform themselves into the most active, and, so far as personal exercises may go, the most accomplished; and, having seen this, he assumed that *therefore* those who had no motive to stimulate them to exertion but caprice, could *easily* produce similar alterations in their own persons. The fallacy must be felt as soon as it is mentioned.

Excerpt from "A Lecture on Muscular Action, delivered by Mr. Sheldrake."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8203 births and 4695 deaths were registered during the week ending Oct. 13th. The annual rate of mortality in these towns, which had declined in the five preceding weeks from 22·3 to 17·1 per 1000, further declined last week to 15·5. During the 13 weeks of last quarter the death-rate in these towns averaged 16·2 per 1000; the rate during the same period in London did not exceed 15·4. The lowest death-rates in the 76 towns during the week under notice were 6·6 in Reading, 7·2 in Hornsey, 7·6 in Aston Manor, and 8·8 in East Ham; the rates in the other towns ranged upwards to 23·7 in Gateshead and Preston, 24·8 in Swansea, 25·6 in Stockport, and 25·9 in Hanley. The 4695 deaths in the 76 towns showed a further decline of 497 from the decreasing numbers in recent weeks, and included 807 which were referred to the principal epidemic diseases, against numbers declining from 2570 to 1027 in the five preceding weeks; of these, so many as 550 resulted from diarrhœa, while 69 were referred to diphtheria, 65 to "fever" (principally enteric), 45 to measles, 43 to scarlet fever, 35 to whooping-cough, and not one to small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 2·7 per 1000 in the 76 towns, while the rate in London did not exceed 1·7. The annual death-rate from these diseases was below 1 per 1000 in Halifax, Hornsey, King's Norton, Hastings, and in four other smaller towns; while it ranged upwards in the other towns to 7·1 in Norwich, 7·3 in Stockport, 8·1 in Preston, 10·1 in Burnley, and 10·2 in Hanley. The deaths referred to diarrhœa (mainly of infants under one year of age), which had declined from 2342 to 775 in the five preceding weeks, further fell last week to 550; the annual death-rate from this disease during the week under notice was still so high as 6·0 in Warrington, 7·2 in Preston, 7·9 in Hanley, and 9·1 in Burnley. The 65 deaths referred to "fever" showed a further slight increase, and exceeded the number returned in any previous week of this year; they caused an annual rate of 1·2 in York, 1·4 in Hull, 1·6 in Stockport, and 1·7 in St. Helens. The fatal cases of diphtheria exceeded the number in any week since the middle of February last, and showed the highest rate of mortality in Wolverhampton, Salford, and Norwich; measles showed the largest proportional fatality in Bootle, Stockport, and Norwich; scarlet fever in Sheffield; and whooping cough in South Shields. No case of small-pox was under treatment in the Metropolitan Asylums hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylums hospitals and in the London Fever Hospital, which had increased in the six preceding weeks from 3042 to 3603, further rose to 3803 during the week under notice; 566 new cases were admitted to these hospitals during the week, against 473, 533, and 621 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 133 and 188 in the two previous weeks, were last week 187, and 26 below the corrected average in the corresponding week of the four preceding years, 1902–05. The causes of 45, or nearly 1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Hull, Salford, and in 45 smaller towns; the proportion of uncertified deaths showed, however, a considerable excess in Liverpool, St. Helens, Preston, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·1 and 17·2 per 1000 in the two preceding weeks, further rose to 17·8 in the week ending Oct. 13th and exceeded by 2·3 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns last week ranged from 11·1 in Greenock and 12·6 in Perth to 19·2 in Glasgow and 19·9 in Dundee. The 609 deaths in the eight towns showed a further increase of 21 upon the numbers returned in recent weeks, and included 96 which were referred to the principal epidemic diseases, against numbers declining from 136 to 77 in the four preceding weeks. These 96 deaths were equal to an annual rate of 2·8 per 1000, which was 0·1 above the rate from the same diseases in the 76 English towns. Of these 96 deaths, 56 resulted from diarrhœa, 17 from whooping-cough, ten from "fever," six from diphtheria, four from scarlet fever, three from measles, and not one from small-pox. The 56 deaths referred to diarrhœa in the Scotch towns exceeded the number returned in the previous week by seven, and included 32 in Glasgow, nine in Dundee, and six in Edinburgh. Of the 17 fatal cases of whooping-cough, 15 occurred in Glasgow and two in Dundee. The ten deaths referred to "fever" were within one of the number in the previous week; five were returned in Glasgow (including three certified as cerebro spinal meningitis) and three in Dundee. Two fatal cases both of measles and of scarlet fever occurred in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 66 and 72 in the two previous weeks, further rose to 80 last week, but were 24 below the number returned in the corresponding week of last year. The causes of 25, or 4·1 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week was rather less than 1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 24·5 and 26·0 per 1000 in the two preceding weeks, declined to 23·7 in the week ending Oct. 13th. During the 13 weeks of last quarter the death-rate in the city averaged 21·4 per 1000, the mean rate during the same period being only 15·4 in London and 13·1 in Edinburgh. The 172 deaths of Dublin residents during the week under notice showed a decline of 17 from the number in the previous week, and included 20 which were referred to the principal epidemic diseases, against numbers declining from 52 to 32 in the five preceding weeks; these 20 deaths were equal to an annual rate of 2·8 per 1000, the death-rate during the week from the same diseases being only 1·7 in London and 1·4 in Edinburgh. These 20 deaths from epidemic diseases in Dublin included 12 from diarrhœa (against 31 in each of the two previous weeks), four from "fever," two from whooping-cough, one each from measles and diphtheria, and not one either from small-pox or scarlet fever. The four deaths referred to "fever" showed a marked increase upon recent weekly numbers. The deaths of infants were fewer than in any week since the beginning of August. Four inquest cases and six deaths from violence were registered; and 69, or 40·1 per cent., of the deaths occurred in public institutions. The causes of seven, or 4·1 per cent., of the deaths registered during the week were not certified; the proportion of uncertified deaths last week was 0·2 per cent. in London and 7·3 per cent. in Edinburgh.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: P. M. May to the *Hannibal*, on commissioning, and M. J. Smith to the *Fisgard*. Surgeons: A. F. Mackay to the *Pembroke*; and C. R. Rickard to the *Shearwater*, additional, and on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Captain E. T. F. Birrell is appointed Adjutant, Depôt and Training School, Royal Army Medical Corps, Aldershot. Lieutenant-Colonel E. L. Maunsell is appointed Administrative Medical Officer at Bloemfontein.

IMPERIAL YEOMANRY.

Royal North Devon (Hussars): Stanley Rider Gibbs to be Surgeon-Lieutenant (extra), under the conditions of paragraph 28, Imperial Yeomanry Regulations (dated Oct. 13th, 1906).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Royal Fusiliers (City of London Regiment): Surgeon-Major H. G. Thompson to be Surgeon-Lieutenant Colonel (dated Sept. 4th, 1906).

DEATHS IN THE SERVICES.

Inspector-General Evelyn Richard Hugh Pollard, R.N., on Oct. 9th, from heart failure. He had been in charge of the Royal Naval Hospital, Chatham, from June, 1905. He entered the Royal Navy as a surgeon in 1878, became a staff surgeon in 1882, fleet surgeon in 1891, deputy-inspector-general in 1899, and inspector-general in 1904. When surgeon of H.M.S. *Boadicea* he landed with the Naval Brigade during the Zulu War in 1879. He also served with the Royal Marines in Egypt in 1882, and was present at the battle of Tel-el-Kebir (Egyptian medal, Tel-el-Kebir clasp, and Khedive's bronze star). Inspector-General Pollard had been in failing health for some time and leaves a widow and four children.

Lieutenant-Colonel George Edward Elton Burroughs (retired), I.M.S., recently, at the age of 56 years. He joined the service in 1875 and served in the Afghan War of 1878-80, including the action of Kushk-i-Nakud, the affair at Girishk, the battle of Maiwand, the sortie from Kandahar, and the defence and battle of Kandahar (mentioned in despatches, medal with clasp).

Brigade-Surgeon Lieutenant-Colonel Caleb Shera Wills, C.B., A.M.D. (retired), on Oct 12th, in his seventy-third year. He entered the service in 1866 as assistant surgeon and reached the rank of brigade-surgeon in 1887. He retired two years later. In the Zulu War of 1879 he served as senior medical officer at the base of operations and of the lines of communication between Durban and the Lower Tugela and also as sanitary embarking and disembarking medical officer (medal and C.B.).

QUEEN ALEXANDRA'S IMPERIAL MILITARY NURSING SERVICE.

A tablet has been placed in the chapel of the Royal Herbert Hospital, Woolwich, to the memory of Nursing Sister Margaret Kendall, who died in April last while on service with the troops at Wynberg, South Africa.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The October number of this journal contains numerous original communications and articles on a variety of subjects, all of which are of more or less interest to army medical officers and those connected with the public medical services. It is needless to enumerate all the titles of these, but we may refer to a paper by Major R. F. E. Austin, R.A.M.C., on "Defects of the Present System of Respiratory Training for the Soldier, with Hints towards its Improvement," because its author, in addition to what he has to say on the subject, calls attention to an interesting and carefully reasoned paper by Lieutenant-Colonel F. Arthur Davy, R.A.M.C. (retired), published in the Army Medical Report for 1876, entitled "A Contribution to the Etiology of Heart Disease in the Army." The author of this dwells upon the injurious effect produced by the usual chest swelling "setting-up drill" so dear to drill sergeants.

CHORAL SINGING IN THE ARMY.

The movement for the institution of choral singing in the army is a good one and Surgeon-General G. J. H. Evatt is deserving of credit for the zeal and energy with which he has taken part in it. We notice that at a recent meeting at Aldershot under his presidency it was unanimously resolved to form a soldiers' musical union "to aid in the encouragement of music among soldiers." Not only are regimental choral societies and the singing of national ballads likely to keep alive a spirit of loyalty and enthusiasm and prove a source of cheeriness, as they always do, on the march, but the love of music and the cultivation of the voice are also wholesome and healthful objects.

It has been decided by the Army Council that the names of former officers no longer liable to service, of pensioners, and of civilians who are willing on mobilisation to render their services, at home or abroad, with the Army Service Corps, Royal Army Medical Corps, or Army Ordnance Department shall be registered in each command.

Colonel Haga, the principal medical officer of No. 5 Division of the Imperial Japanese Army, is visiting the depôts and hospitals at Aldershot.

Correspondence.

"Audi alteram partem."

OPERATIVE TREATMENT IN INSANITY.

To the Editors of THE LANCET.

SIRS,—Dr. Mercier's analogy between "lowering the ritual of a church by taking some of the slates off the roof" and the operation of trephining to relieve a diseased brain, though not very apposite, was perhaps good enough as a *jeu d'esprit* for the mere purpose of a debate. May I now use his metaphor for my own purpose? If there is reason to suppose that something is wrong with the services it would probably be the only way—other modes of inspection being inaccessible—to obtain evidence of the "lowered ritual" (whatever that may mean) and of correcting errors in it; it would certainly be better than relying upon rumour and guesswork for knowing what was going on within. Dr. Mercier details six "suppositions" in which he puts my case so clearly that it is not necessary for me to say more than that they have already passed out of the domain of hypothesis and have become accomplished facts.

I have seen a case in which the hallucinations (as shown by post-mortem examination) were accompanied by a very definite lesion in the correlated sensory area, and the connexion between the symptoms and the diseased centre was, as far as could be judged, a causative one, and I can only regret that surgical measures were not taken during life and remedies applied. But I can go farther than this, and quote a case (among others) detailed in the *Journal of Mental Science* for 1902, p. 694, by Mr. Damer Harrisson, in which that gentleman operated upon a man suffering from non-traumatic melancholia. In this case the hallucinations disappeared after an opening three inches long by two and a half inches wide was made over the sensory centre implicated, and the result was recovery in three weeks, the melancholia and the hallucinations disappearing completely. When I read before the Medico-Psychological Association a paper on the "Surgical Treatment of Delusional Insanity," pointing out that it was probable that in some instances hallucinations preceded and were directly connected with delusions, and that it was advisable to determine early if possible the nature and the primary local signature of the hallucination, I was not aware of Mr. Damer Harrisson's successful work in this direction. I subsequently received a letter from Mr. Harrisson in which he says: "In defective-minded children I find that *in many instances the primary local signature may be identified.*"

Again, a short time since, Mr. Sheild and I reported in THE LANCET a case in which acute mental symptoms were completely cured almost immediately after the operation of trephining. In this case the original lesion was traumatic but there was no external trace of what was actually found—viz., a fissure in the internal table, the connexion of which with the mental symptoms was not so clear, though the result of the operation was so immediate as to leave no doubt of its efficiency.

I think, from what I have stated, that there are in well-considered instances grounds for the employment of surgical

methods and that there is hope that with an extended knowledge of localisation we shall find early surgical treatment of still greater use and that just as recent abdominal surgery has been the result of more accurate knowledge of pathological processes and of advanced methods in surgery, so we may hope for similar good results with cranial interference. It was not because abdominal surgery has been successful that I mentioned the subject in connexion with operative treatment in insanity. My object was to illustrate how timorous and tardy interference in one department had given place to opportune and speedy success in that region, and I think, from illustrations and given references, that I am justified in urging that surgical methods are worthy of consideration in our attack on conditions which in too many instances terminate in hopeless confusion. Cranial surgery is to be employed not because abdominal surgery has been successful but because it (cranial surgery) has been already proved of service in the treatment of insanity, and I trust that the "roving surgeon" may open up to us new ground for treatment and will not be deterred from exploiting this territory by Dr. Mercier's warning that "trespassers will be prosecuted."

I am, Sirs, yours faithfully,

Harley-street, W., Oct. 15th, 1906. T. CLAYE SHAW.

PURIN-FREE DIETS.

To the Editors of THE LANCET.

SIRS,—In Dr. W. A. Potts's interesting "Notes on Purin-Free Diets" he states that "the Romans at the time they conquered the world were vegetarians." I think Dr. Potts would be greatly puzzled to cite any authority in support of such a statement. Doubtless the early pastoral people of Latium lived largely on lentils and fruit, but the dauntless legions who followed the Roman eagle were coarsely omnivorous. Whether toiling through Syrian deserts or racing over the Apennines or Alps every soldier carried a supply of cured pork, cheese, and flour, usually a sufficiency for 12 days when commencing a march. The wealthy Roman classes were carnivorous to a degree not to be measured by modern appetites: "edunt ut vomant, vomunt ut edant."—I am, Sirs, yours faithfully,

Worthing, Oct. 15th, 1906. W. W. JONES.

FOOD PRESERVATIVES.

To the Editors of THE LANCET.

SIRS,—There are some other considerations arising out of the use of food preservatives to which, without prejudice to their proper employment, I think reference should be made. For instance, in the case of patients suffering from chronic and other intestinal disorders it would, under the new order of things, be desirable for them to ask their medical attendants explicitly, as they often do about sugar, pepper, sauces, and other common articles of diet, whether boric acid, benzoic acid, formaldehyde, salicylic acid, sulphate of copper, alum, and other ingredients that might be mentioned, should or should not be also taken with their food and if so in what dosage and at what times.

Not being a physician I am ignorant as to whether the latter information is usually volunteered or required in the consulting-room or is it only forthcoming when symptoms of drug absorption are obviously present? It must, I should think, not infrequently increase the difficulties of treating a disorder if in addition to the medicines the patient is receiving from his adviser he is taking others, though their full physiological effects may not be apparent, from the food merchant. "See that the action of all drugs is suspended before new ones are prescribed," was a frequent remark by one of my most respected and experienced teachers. Why should not all foods which are adulterated be so labeled? Then the salesman and purchaser would be quits.

I am, Sirs, yours faithfully,

Berkeley-street, W., Oct. 13th, 1906. REGINALD HARRISON.

THE RECENT SENATORIAL ELECTION AT THE UNIVERSITY OF LONDON.

To the Editors of THE LANCET.

SIRS,—As one of those who, although a London teacher, nominated Dr. E. G. G. Little, and took an active part in his return, I rejoice at the result. It should stay the iconoclastic tendencies of those in authority at the University of London, for the changes initiated in the curricula for degrees in medicine and surgery have without doubt been the outcome of panic induced by the falling off of students of medicine in the metropolis. Now all legislation consequent upon panic is dangerous, and the danger in this instance is intensified on reading the report of the standing committee of Convocation on these changes. Our University has won and kept its high position in the medical world by the general and scientific training of its graduates as well as by their professional knowledge. Under the new *régime*, by the introduction of numerous by-paths to admission, the general education and scientific training are reduced to a valueless minimum, and even the medical examinations can be taken piecemeal—i.e., subject by subject. By catering for quantity at the expense of quality our University, I feel sure, will not attract as some think those students who now naturally gravitate to the provincial universities, but will lose its present popularity and undermine its very foundations. Decentralisation in medical education, with the ever increasing facilities for scientific and clinical training which the provincial schools afford, has come to stay. If the London University degree is to be esteemed in the future as it has been in the past, it can only be by maintaining unimpaired its high standard of general and scientific training and its high examinational tests.

I am, Sirs, yours faithfully,

London, W., Oct. 11th, 1906. ERNEST W. WHITE.

ANTIVACCINATION TACTICS.

To the Editors of THE LANCET.

SIRS,—I thank you very much for so promptly supplying a copy of your current issue containing a complaint from the editor of the *Cleveland Medical Journal* of a supposed infringement of his conditions of republication. This is the first, and so far, the only, intimation I have received of Mr. Carter's dissatisfaction with my conduct, which is a purely personal responsibility and not in any way chargeable upon the antivaccinists' cause in general.

The complaint that an equally conspicuous space was not afforded to his letter is very debatable, for a special appendix is devoted to it; however, I submit a copy of the booklet for your examination and respectfully direct your attention to the following points: 1. The three and a quarter small pages derived from the report of the *Cleveland Medical Journal* were originally copied from the reprint in the *Vaccination Inquirer* of September, 1902, vol. XXIV., p. 119. All I used the *Cleveland Medical Journal* for was to correct the excerpt so that its accuracy might place it above the charge of garbling. This appeared desirable because the paragraph in the *Vaccination Inquirer* was itself a reprint from the *Philadelphia Item* and *Medical Talk*; and I believe I am indebted to the publishers of the *Cleveland Medical Journal* for the copy of their journal by means of which the corrections were made. Thus it will be seen that the paragraph is, in reality, simply a corrected reprint from the *Vaccination Inquirer*, with one and three-quarters small pages from *Vaccination Superstition*. 2. In his complaint Mr. Carter has omitted to give a copy of my letter of request and a copy of the note in the appendix named. These were:—

The Pubr., *Cleveland Medical Journal*, Cleveland, Ohio, U.S.A.

SIR,—Please accept my very best thanks for the copy of your No. 2 issue, with Dr. Friedrich's paper in. Can you allow me to reprint this (complete with the discussion) in a booklet of *debates* on the subject? Duly acknowledged of course.

Yours respectfully,

16, Granville terrace, Stone, Staffs, 30.4.06. W. J. FURNIVAL.

APPENDIX.

"Since the foregoing matter was prepared for press and partly printed off, the compiler has received a further statement from the editor of the *Cleveland Medical Journal*.

The communication was in reply to a request for permission to reprint Dr. Friedrich's paper *in toto*, together with the whole of the reported discussion thereon, in another booklet of this series entitled, 'Notable Public Debates, Discussions, &c., on Vaccination.' This it is intended to print in due course, and the statement in question will then be appended to the report; but having in the present booklet reproduced a considerable rescript of Dr. Friedrich's paper and also of Dr. Munn's later notes thereon: the compiler believes it will be more in accord with the wishes of the *Cleveland Medical Journal* to give currency to the statement in this place also." (Then follows Mr. Carter's statement as per his letter.)

It will thus be seen that the "*Debates*" for which permission to reprint the report *in toto* was obtained has yet to come;

at present it is in manuscript only; when it is printed, Mr. Carter's conditions will not be intentionally disregarded; and meanwhile I may point out that the aforenamed appendix was inserted from a somewhat supersensitive desire to conform to the wishes of the editor of the *Cleveland Medical Journal*, the matter as appearing in the booklet of which he complains really consisting only of reprints from other journals.

Yours respectfully,

Stone, Staffs, Oct. 13th, 1906. WM. J. FURNIVAL.

STAMMERING AND ITS TREATMENT.

To the Editors of THE LANCET.

SIRS,—Several inquiries having reached me as to whether Dr. R. A. Worthington, in the excellent article on stammering which appeared in THE LANCET of Sept. 22nd, p. 789, had correctly presented my views on the subject, will you allow me to say, for the benefit of any other inquirers, that there is only one point on which he has made a slight error? Dr. Worthington said: "Of the universal exemption from stammering when singing there is no question." This statement was due to an unintentional omission on my part. When giving him the information he had asked me for in order to help him with his graduation thesis it escaped my memory to supply him with the necessary data of a certain number of cases of stammering while singing, constituting, I find, about 2 per cent. of the whole number. They were all traceable to faulty breathing, therefore the general scope of the argument on the causation of stammering was in no way invalidated.

I am, Sirs, yours faithfully,

Earl's Court-square, S.W., Oct. 15th, 1906. R. BEHNKE.

THE FREE FEEDING OF SCHOOL CHILDREN AT MILAN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

FREE MEAL EXHIBITS BY ITALIAN TOWNS AT MILAN.—MILAN MUNICIPALITY BEGINS WITH BREAD AND SALAME.—GRADUAL INTRODUCTION OF HOT MEALS.—THE COST.—THE CONDITIONS OF GRATUITOUS MEALS.

Milan, Oct. 6th.

AT the Milan Exhibition there is a long pavilion specially devoted to educational questions. In it are many exhibits that concern the sanitation of schools and the health, growth, and physical development of the children. Naturally there is the old question of school furniture, the providing of desks and chairs of varying height according to the different sizes of the children. Then there are physical exercises, gymnastics, dancing lessons, and other methods of rendering the children strong, supple, and graceful. All these and many other matters, illustrated by specimens, by drawings, or by photographs, have been the subject of innumerable exhibitions in different parts of the world. The necessity of such appliances and methods is no longer a matter of doubt or dispute. But it is only of comparatively recent years that the educational authorities and the public generally have commenced to realise the futility of mental teaching and physical training when the child is insufficiently or unsuitably fed. At no period, presumably, could anyone have supposed that education without food was possible. Still, it was only after compulsory and almost universal education had been enforced for some considerable time that medical and other evidence was forthcoming to prove that a considerable number of children were rendered physically unfit and could not profit by their education because they were insufficiently fed. At first only a few charitable people and institutions attended to this matter. The insufficiency, untrustworthiness, inequality, and sometimes the wasteful extravagance of these charitable undertakings soon demonstrated that no mere individual efforts could solve what is really a national problem. This has been the experience of several countries as I have already related when giving the history of the Paris *cantines scolaires* and the feeding of the children in the communal schools of Brussels.[1] In Great Britain, as is known to all, the matter is ripening for legislation and Mr. Birrell advocated in the House of Commons the adoption of a system very similar to that in existence at Paris, of which I have given a description.[2] As in Italy there is widespread poverty the problem in that country is equally urgent.

A visit to the Milan exhibition suffices to demonstrate that the importance of the question is appreciated and that some notable efforts have been made to meet these requirements. Among the school exhibits in the Italian section there are reports, pictures, and photographs dealing with the *refezione scolastica* which is the Italian for what the French call the *cantines scolaires*. Perhaps when the thing exists in England we shall invent a word for it; in the meanwhile we must perforce content ourselves with talking vaguely about feeding the children. Nor is it only in the progressive north of Italy that such measures have been studied and applied. It was a pleasure and surprise to find that the first photograph that I saw of children enjoying a meal at school was that of the *refezione* at Palermo in the far south. Here in a broad passage a long narrow table had been placed and it reached breast high, so small were the little girls standing on each side. But another photograph showed the boys comfortably seated in a large square room at different rows of tables. At Padua a passage has also been utilised, though this time it was boys and not girls who were standing at a table, and it is easy to see they were partaking of the national dish—macaroni. The commune of Brescia has photographs indicating that, according to the weather, the children dine either indoors or out of doors. It is a happy sight to see, be it only in a photograph, these children sitting under a graceful arcade or *portici*, sheltered from the sun while enjoying the open air and their daily meal. The San Remo school, which sends a photograph, has tables but no seats. The same can be said of Lodi, but at Bologna again we find the meals in the open air. The urban school of Aurora feeds 500 children in one single very large room. Several of these places also send photographs of the kitchens and kitcheners in which the meals are cooked.

A few steps further on are the school exhibits from Great Britain but here there is no trace of an attempt to feed those who most need food. On the other hand, there is a photograph of the dining hall at Newnham College, Cambridge. This, too, is within a few feet of the exhibition of l'Œuvre des Voyages Scolaires des Reims where poor French children are photographed taking their meal under some fine old trees. It would be in better taste to have withheld the photograph of the dining-hall provided for the young ladies who can afford to be educated at the University of Cambridge till such time as other photographs were forthcoming illustrating that Great Britain was not behind Italy in caring for those who are not so fortunately situated. The young ladies are not compelled by law to go to Newnham College; but the children of the poor, however insufficiently fed, must go to the primary schools. Therefore in the Italian section there are no pictures to indicate how the students who voluntarily attend universities are fed, but there are many photographs to prove the concern which is shown to insure that the poor who attend the elementary schools shall have at least a little food.

Unfortunately, it is but a little food. Perhaps we must be thankful for small mercies and allowances must be made for an institution which is only at the beginning, at the experimental stage of its existence. But I must confess that I was not a little disappointed when I found out how very small is the quantity of food actually given. As it was in Milan that I had seen these exhibits it was only natural to inquire first what the town of Milan itself had done in this respect. Consequently I called upon Senator the Marquis of Ponti, the Mayor of Milan, who received me with the greatest courtesy and introduced me to Signor E. Molana, superintendent of the educational department of the Milan municipality, with whom I had lengthy interviews. It soon became apparent that at Milan, as in so many other places, the authorities, while recognising the necessity of feeding the children, were loth to take upon themselves the trouble and responsibility of such a service. There existed what are called committees of patronage, constituted to help in the general work of education, and the municipality fondly hoped to get out of the whole difficulty by voting an annual subvention of £4000

[1] See THE LANCET, Sept. 17th, 1904, p. 860, and August 5th, 1905, p. 406.

[2] Loc. cit.

to these committees. Experience soon proved that this did not work and it was indispensable that the education authority should itself take the matter in hand.

There are, however, in such a question technical points involved with which municipal councillors are not necessarily familiar. It was resolved that a committee of nine municipal councillors should be appointed with the mayor as president. This committee was empowered to select specialists to help it; for instance, persons who were authorities on cooking or on the choice and purchase of food. Three such selected assistants could be appointed by the committee of nine to watch over each school. Thus the entire administration is in the hands of the municipality and its nominees. The number of children who are inscribed and supposed to attend the Milan primary schools is 46,000 in round figures. The question at once arose as to how many of these children would need to be fed at school, how many could go home for their midday meal, and what proportion would have to be fed gratuitously. Of course these figures were not ascertained at once and in the course of time modifications occurred. It is not necessary, however, to give other than the most recent figures so as to make known the actual situation.

As already stated, the municipality had estimated the outlay at about £4000 but it soon found that this was not enough to allow the expenditure of only 1*d*. per head per meal. Then there were no dining rooms, no kitchens, no plates, and nothing whatsoever in which any sort of cooking could be attempted. Therefore it was decided to commence by giving a cold collation and for this purpose it was thought that 100 grammes of bread would suffice (113·4 grammes equal ¼ pound). It was soon found that this was only sufficient for the first and second classes. In the third class 120 grammes of bread are now given and 150 grammes to the fourth and fifth classes or forms, but at first smaller quantities were tried. Then came the question as to what the children should eat with their bread; and *salame* was the natural answer, for this is precisely what a workman in the majority of cases would ask for to help him to eat dry bread. It is the staple article of food throughout the country and is the ever-ready substitute for ordinary meat when the latter cannot be readily procured or prepared. Whether it is suitable as a permanent article of diet for children is a very doubtful matter. In any case it is tasty and artistically prepared. So much is this the case that in London it is sold as a delicacy in the "delicatessen" shops. One or two very thin slices of this sausage serve as an appetiser at the commencement of a banquet and it costs in London 1*s*. 4*d*. a pound. It has a perfume of garlic and is made of cured but not of cooked pork. What is served as a delicacy in England constitutes about the cheapest form of meat that can be given to the children who are fed at the public expense in the primary schools of Italy. But there is another sort of sausage which has the shape of a huge water melon. It is like the Mortadelle sausage but not so good, and this also is served to the children, but it is boiled. Therefore, it absorbs some water, so that a larger quantity must be given. Here, however, is the typical allowance made at one of the Milan schools where there is only a cold collation. With the amount of bread mentioned above on Mondays, 20 grammes of *salame*; Tuesday, 30 grammes or one ounce of cheese; Wednesday, 25 grammes of cooked sausage; Thursday is the holiday. On Friday there are 22 grammes of chocolate, and on Saturday again 20 grammes of *salame*. Of course, though I use the word sausage, I mean a perfectly firm meat and not the sausage with which we are familiar in England.

These cold collations, I must hasten to add, are not approved. All that is said in their favour is that they are better than nothing. The building of kitchens and dining-rooms, the purchase of the necessary crockery, and the training of cooks are matters requiring time and, above all, more money than can readily be obtained. Still, a beginning has been made. There are now six of the largest schools in Milan where hot meals are supplied to 4500 children, or about 10 per cent. of the total number of children attending the schools. Hot meals will be introduced into two more such schools next year and these, the most favoured of the schools, are in the poorest quarter of the town. At these hot meals feeble children are often given eggs. The amount of meat allowed, whether it is boiled or roasted, is generally 25 grammes, or a little less than an ounce, weighed after it is cooked. The ration of cooked macaroni is 240 grammes, rather more than half a pound English weight. Of course it contains a good deal of water. Of *risotto* even more is given—namely, 275 grammes. When will it be possible to have *risotto* in England elsewhere than at an Italian restaurant? Why should the British housewife refuse to cook rice in an equally appetising manner? We have to pay large sums in England and go to special restaurants to obtain what is given to the poorest children in Italy. Then when meat is cooked with potatoes 55 grammes are given. The cost for this food per kilogramme is in francs or *lire*, for *salame*, 2 80 francs; for cooked sausage, 2.95 francs; for gruyère cheese, 1.85 francs; for roast veal, after it is cooked, 4 80 francs; for *lesso* or boiled meat, 2.75 francs; for chocolate, 2.40 francs; for bread, 35 centimes; for rice, 39 centimes; and for Neapolitan pastes or macaroni (and these are the best), 46 centimes the kilogramme. Thus, wheaten flour consumed in the form of macaroni is about 25 per cent. dearer than bread, but how much nicer when artistically flavoured, and the poorest of Italians know how this should be done.

Though it is stubbornly affirmed that there is no such thing as trichinosis in Italy nevertheless it is the custom to give the cooked sausage twice in summer for once that the uncooked is given and the reverse is the case in winter. Unfortunately, the cooked sausage is not liked and cheese is preferred. Indeed, the boys as a rule prefer cheese or chocolate. It has been calculated that the cold collation only costs on an average 9 centimes per head, though in some schools they manage to spend 13 centimes. The municipality made arrangements with 50 bakers for the bread and 60 pork butchers for the *salame*. Such small contracts, it seems to me, leave the door open for many abuses, and I do not see how an efficient sanitary control can be kept over so many different and scattered purveyors. The municipality owns the public abattoir and proposes to build another and a larger one. If it were to introduce on the same premises a sausage-making department it would be much easier to keep effective watch over the quality of the meat given to the children in the form of *salame*. There are in all 80 elementary schools which children must attend from the age of six to 12 years and there is no charge made for the teaching. The parents, however, are supposed to pay for the stationery, the books, and the meals. The committee of patronage, which at one time had been expected to organise the meals, now only attends to helping poor families to send their children to school by buying clothes and books for them.

In regard to the meals, the principle is that every child must be fed and this is done by the parents if living near enough for the child to go home for the midday meal, or the child may purchase his meal at school; but if he is too poor to pay the meal is given gratuitously. As matters now stand, about half live near the school and are well enough off to go home to their meals. 33 per cent. of the total school population are inscribed to receive their midday meal gratuitously at school, while from 17 to 20 per cent. remain at the school at midday but pay for their meal. This small proportion of pupils who pay causes some trouble. If they pay they do not fail to grumble. They do not want a meal at 9 centimes, or a fraction less than a penny. Most of those who can pay at all can afford 15 centimes, or 1½*d*., and would prefer to give this sum and have a properly cooked hot meal rather than pay much less for only bread and cold sausage.

When the parents cannot pay they must send a written demand to the municipality and then one of the delegates of the municipal education commission makes inquiries. The deciding factor in judging such cases is generally the number of the family. If there are only two children then the parents may be forced to pay for the meals of one of them. Also if the children look in ill health then the food is not refused. Altogether the gratuitous meals are very readily given. Roughly speaking, the meals now cost the municipality about £12,000 annually. The parents who pay for their children's meals have given in all £3200 in the course of the year. It is important to note that here, as elsewhere, the tendency is to increase, and to increase extensively, the number of meals given gratuitously. Thus, when in 1900 this service began meals were given on only 133 days out of a possible 174 days of school attendance. The outlay was then set down at 98,300 francs. During the second year, however, free meals were served on 153 days and cost 149,337 francs. In 1903 the free meals cost the municipality 247,766 francs and 277,603 in 1904. The outlay will now exceed 300,000 francs and the number of

pupils who manage to establish their claim to be fed gratuitously is ever increasing. The nearer the school to the outskirts of the town the larger the proportion of gratuitous meals required. This is due to the fact that the children come from a greater distance and that their parents are generally agricultural workers.

From all this it will be gathered that a great deal has been done, but principally in an experimental manner. The authorities have been led by force of circumstances to extend and to improve step by step, acting according to expediency and the exigencies of the moment rather than in obedience to some fundamental principle and in harmony with a clearly defined theory. To the more logical and theoretical mind the experiences of the conservative municipality of Vercelli will be far more interesting and these I hope to describe at an early date.

(To be continued.)

THE INTERNATIONAL CONFERENCE ON CANCER.

(FROM OUR CORRESPONDENTS.)

THE Institute for Cancer Research at Heidelberg was formally opened on Sept. 25th during the meeting of the International Conference on Cancer which was held at Heidelberg and Frankfort from Sept. 25th to 27th. The institute, which has been entirely built by private subscriptions, will be under the direction of Professor Czerny, the celebrated surgeon of the University of Heidelberg. It is a hospital for cancer patients as well as a centre for cancer research. In addition to a number of wards and single rooms containing altogether 45 beds, there are admirably equipped laboratories, which include anatomical, chemical, bacteriological, and experimental departments. The hospital will receive patients in every stage of the disease both curable and incurable. It is therefore provided with a large operating room and arrangements for employing phototherapy, radiotherapy, and other modern methods. Out of deference to the feelings of the patients the name of the hospital will be "The Samaritan Home" (*Samariterhaus*), thereby avoiding the terrible word cancer. The opening ceremony took place in the presence of the Grand Duke and Grand Duchess of Baden and representatives of the municipal authorities, the University, and the scientific world.

After the Cancer Institute, of which an account illustrated with plans and a front elevation was given in THE LANCET of Oct. 6th, had been visited and declared open, their Royal Highnesses and the many illustrious persons present proceeded to the Aula of the University. Here Professor VON LEYDEN (Berlin) read an address of congratulation in reference to the inauguration of the institute and of welcome to the representatives of various nations. He said that prior to the end of the eighteenth century cancer was treated almost entirely by quacks, but about this period the medical profession took up the study of this disease in a systematic manner, France and England, where special cancer beds or wards were opened as early as 1791, taking the lead. In 1801 the Society for the Investigation of the Nature and Cure of Cancer was founded in London; similar institutions were also organised in the United States, Russia, and Sweden. In 1900 the German Central Committee for the Study of Cancer was established in Berlin. Professor von Leyden strongly insisted that statistics showed a definite increase in the number of persons attacked by the disease and in sympathetic words he alluded to the death of the Emperor Frederick the Noble. The work and aims of the central committee were expressed as: (1) the answer to the question whether cancer was due to a parasite like infectious diseases; (2) the investigation by experiments whether cancer was transmissible from man to animals; (3) the chemistry of cancer; and (4) the main and chief object—to seek new and more successful remedies. The first object accomplished was statistical in order to obtain an idea of the prevalence of cancer. In 1902 a special cancer department was opened in the Medical Clinic of Berlin; in 1903 an institute under Professor Ehrlich's directorship was opened at Frankfort; and in 1904 an institute for the treatment of cancer by the Roentgen rays, Finsen light, and radium was opened in Berlin. In conclusion, Professor von Leyden, while supporting his attitude towards the parasitic theory of cancer, referred to the results of chemical researches and the possibility of therapeutic measures based thereon.

Professor CZERNY, as president of the Baden committee, was the next speaker. He dwelt upon the aims of the new institute—inaugurated that morning—which was to work in conjunction with the institutions at Berlin and Frankfort. He alluded to the great progress which had been made in the surgical aspect of cancer, saying that 40 years ago under the care of Professor Billroth 14 per cent. of the cases recovered—i.e., there were no recurrences after three years, but at the present time 40 per cent. of such recoveries were found. He considered that asepsis and anæsthetics were nowadays so perfect that a limit has probably been attained and new methods must be found if better results are to be secured. Inoperable cases required special attention and in most hospitals they were not admitted, but this new institute would care for them. In it surgical treatment would come foremost, the material removed by operation would be investigated in every possible way, a close association between operating room and laboratory would be established, and all new methods theoretically promising would be investigated and subjected to practical tests. With the words "education, organisation, perseverance, and hard work have made Germany what it is" and "Hoch" for the Grand Duke and Grand Duchess Professor Czerny resumed his seat.

The GRAND DUKE in a long speech expressed his thanks on behalf of himself and the Grand Duchess. He said that it gave him extreme pleasure to be present at the inauguration of so important an institute, which brought Heidelberg once more into prominence and which promised so much good to mankind. As an old pupil of the University of Heidelberg he alluded to its past, to the names of such illustrious men as Bunsen, Schlosser, and Vangerow, and called for three cheers for the University.

On behalf of the Government, Minister VON DUSCH, and on behalf of the University, Prorector TROELTSCH greeted the foreign members of the Congress.

Professor KOSSEL, Dean of the Faculty, delivered the farewell address to Professor Czerny on his vacating the professorial chair to become director of the new Cancer Institute.

Dr. WILKINS, the Chief Burgomaster, spoke on behalf of the municipality of Heidelberg and Professor UHLENHUTH spoke as the representative of the Prussian Government.

Dr. E. F. BASHFORD (who replied on behalf of his English colleagues—Dr. Alexander Paine, Dr. D. J. Morgan, Dr. White, Dr. Loveday, Dr. W. S. Lazarus-Barlow, Mr. F. B. Jessett, Mr. C. H. Leaf, Mr. Charles Ryall, Mr. W. E. Miles, Mr. J. Howell Evans, and Mr. R. H. J. Swan) extolled the necessity of coöperation and of neglecting claims of priority. He eulogised Professor Czerny as a surgeon and Professor Ehrlich as a master of experimental medicine.

Professor SEGOND (Paris) expressed his hope that soon some more satisfactory treatment might be found.

Dr. LEVSCHIN (Moscow) also spoke.

As general secretary of the Congress Professor GEORGE MEYER remarked that nearly all civilised countries were represented: even from Asia and Africa delegates had been sent; out of 800 invitations only 50 had been declined.

Many distinguished foreigners were presented to the Grand Duke and Duchess, Professor Czerny paying particular attention to the presentation of all the English visitors. During the course of conversation with one of our correspondents the Grand Duchess, who evidenced great interest in cancer research, expressed gratification at finding so many members of the staff of the Cancer Hospital, London, present, inasmuch as she had since 1851, the year of its opening, observed its work with deep interest. She remarked that upon its staff were members of not only the Royal College of Surgeons but also of the Universities of Oxford, Cambridge, and London. From 12.30 to 1.30 P.M. all members of the Congress were invited by Professor Czerny to luncheon in the new college hall.

At 2 P.M., with Professor CZERNY in the chair, the first scientific meeting of the Congress was held. A telegram was received from Herr Richard Fleischer, the chief benefactor of the new institute, expressing his regret at being unable to attend owing to an accident.

Professor VON LEYDEN, the President of the Committee for Cancer Research, read a paper on the Problems connected with the Treatment of Cancer. He said that for centuries surgical intervention had been the only rational resource but that the results were in general not yet satisfactory, although

a permanent recovery rate of 40 per cent. had been obtained in early cases. It had become more and more probable that a parasite was the cause of cancer, and since the discovery of Jensen, who first ascertained the presence of malignant growths in mice, his (Professor von Leyden's) attention had been directed to serum treatment. He mentioned two cases of inoperable growth situated in the pancreas and the vertebral column respectively where by the injection of serum from sheep the general state of the patients was improved and their weight was considerably increased. He then spoke of the disintegration of the cancer cells by trypsin and of the experiments made especially in England to use this fact as a therapeutic agent.

Professor CZERNY then spoke of unexpected recovery from cancer. He said that undoubtedly, though in very rare cases, cancer might spontaneously disappear when the case was not operable or when total removal was impossible. Erysipelas was known to have a deleterious influence on the growth of cancer and he mentioned the case of a patient in whom several relapses had happened and who, after an attack of erysipelas occurring 20 years ago, was now in good health. Palliative operations sometimes resulted in complete recovery and among his cases of palliative gastro-enterostomy there were 12 which were followed by permanent recovery.

The following papers and demonstrations were contributed:—Dr. FREIHERR VON DUNGERN (Heidelberg): "The Utility of Specific Serum Reactions in the Study of Carcinoma." Professor GOLDMANN (Freiburg): "The Relation of Carcinoma to the Blood-vessels" (lantern illustrations). Dr. FROMME (Halle): "Demonstration of the Behaviour of the Mast Cell in Carcinoma" (lantern illustrations). Professor VÖLCKER (Heidelberg): "Demonstration of Cancer of the Stomach and Intestines."

In the evening there were fireworks and illumination of the two bridges and both banks of the river.

The second part of the Congress was held at Frankfort-on-Main.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Musical Festival.

THE triennial musical festival has grown into a great institution, but its primary object was to render aid to our General Hospital and in 1834, when the first festival was held, a sum of £4035 was handed over to the hospital authorities as the profit out of receipts amounting to £13,527. This year, probably on account of the very inclement weather, the attendance was not so large as on some previous occasions, and though the result is not yet known it is very probable that the profits will not be so great as they were last time. The expenses are, of course, very heavy and the accommodation is limited, so were it not for generous donations it would be difficult to meet expenses and the hospital would receive but little aid. Fortunately, however, there are many generous donors and so the good work goes on.

The Orthopædic and Spinal Hospital.

The new out-patient department of the Orthopædic Hospital was opened on Oct. 10th by the Marquis of Hertford. It is a handsome building in the Elizabethan style and is faced with slightly glazed bricks and terracotta, which, it is hoped, will remain clean longer than ordinary bricks do in this city. The interior is well arranged for the comfort and convenience both of the patients and the staff and there can be no doubt that the building will greatly facilitate the work of the institution. Unfortunately, however, the income of the hospital is far from satisfactory; indeed, the committee is seriously considering whether it will be able to continue to supply instruments free of charge to poor patients. If it becomes necessary to adopt this solution of the difficulty the benefits of the charity will be seriously curtailed and it is to be hoped that now the condition of affairs is known the subscriptions and donations will be augmented.

The New Mortuary.

The necessity for a central properly equipped mortuary in Birmingham has been felt for a considerable period and it was determined some time ago that one should be provided. The project has now advanced so far that the council has applied to the Local Government Board for sanction to borrow £3000 for the purpose of erecting a proper building on a suitable piece of ground in Newton-street. A public inquiry has been held and as no opposition to the council's scheme was forthcoming there can be little doubt that the necessary sanction will be granted and Birmingham will at last possess proper mortuary accommodation.

The Condition of Birmingham School Children.

If the statements made at a meeting, held under the presidency of Mr. Priestley Smith at the Friends' Meeting House, can be fully substantiated the condition of the children in some of the poorer districts must be extremely bad, indeed far worse than the majority of people consider possible and yet apparently no worse than in some other cities. It is asserted that in some cases as many as 85 per cent. of the children are continually ill and that not more than 2 per cent. are really robust, whilst it is questioned whether 50 per cent. of the children are physically capable of profiting by the instruction provided for them. In very many cases the children are short-sighted, yet none of them are provided with spectacles. The speakers pleaded the necessity for compulsory medical examination, urging that it was useless to throw away money in providing an education which could not be assimilated. They admitted that the provision of medical examination would be very costly but they contended that the money would be well spent in building up a healthy race which would then be able to profit by the instruction provided. One cannot help thinking, however, that this undoubtedly dismal picture has been drawn with somewhat unnecessarily strong lines and that it refers to a somewhat limited and particular class of children, for at the annual gymnastic competition held on Saturday last for the boys of the Birmingham elementary schools the spectators could not but be struck with the general smartness. It is true that they were selected boys, but Councillor Dr. Gordon F. Nicholls referred to the splendid manner in which physical education was being attended to in our schools and he asserted that it was being carried on "by the band of workers second to none in any large city in England."

Local Health Reports.

The health of the city remains good and with the advent of cooler weather deaths from diarrhœa are decreasing rapidly. The quarterly reports of Oldbury, Aston, and Yardley show how fatal summer diarrhœa has been, though, strangely enough, the disease did not become particularly fatal in Aston till September. There is no doubt that a large amount of this fatal scourge is due, as Mr. A. H. Wilson of Yardley pointed out, to neglect of thorough cleanliness; not only cleanliness of feeding-bottles but also general cleanliness; and many valuable lives are sacrificed which might be saved if stronger efforts were made to induce the women of the poorer districts to have greater faith in the plentiful use of fresh water and if they were taught that fresh water can be used quite effectively without the aid of the elaborate appliances which they may have seen in public institutions.

The Edinburgh Graduates' Dinner.

The annual dinner of the Edinburgh graduates resident in Birmingham and the surrounding district was held at the Grand Hotel on Thursday last. The meeting was a great success both in numbers and in the quality of the speeches. Professor R. F. C. Leith was in the chair and about 70 graduates were gathered to welcome Professor D. J. Cunningham (the principal guest), Professor Arthur Thomson of Oxford, Professor C. S. Sherrington of Liverpool, and Professor Frankland of Birmingham.

Oct. 16th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University of Liverpool: Opening of the Muspratt Laboratory of Physical Chemistry and Electro-Chemistry.

THE Muspratt physical chemistry laboratory, the latest addition to the University of Liverpool, was opened on Oct. 13th by Sir William Ramsay, K.C.B., F.R.S., in the presence of a large gathering which included many distinguished British and foreign professors of chemistry, among the latter being Professor Ostwald (Leipsic) Professor R. Abegg (Breslau), Professor H. Goldschmidt (Christiania),

and Professor E. Cohen (Utrecht). The new laboratory is the gift of Mr. E. K. Muspratt of Seaforth Hall, one of the pro-Chancellors of the University, and the President of the Council. The laboratory confers upon Liverpool the distinction of being the only city in the British Empire to possess a special and completely equipped laboratory for the study of physical chemistry and electro-chemistry. Including its electrical machinery, laboratory, and furnaces the estimated cost will be £16,000 and it will provide accommodation for 43 persons. It stands behind the existing chemical department of the University and is immediately connected with it on the basement level. It is constructed in four storeys, the exterior being of red pressed brick and stone, and in its general design harmonises fittingly with the buildings which surround it. The basement is taken up with a dynamo room, a battery room, store room, furnace room, and a research room for four students. The generating machinery, which is to be driven by current from the corporation mains at 460 volts pressure, comprises a 30-kilowatt direct current generator supplying current at 80 to 100 volts; a 10 kilowatt charging set, consisting of two machines on the same axis, each giving 250 ampères at 20 volts; and an 80-kilowatt alternator with two windings to give 1000 ampères at 80 volts, or 500 ampères at 150 volts. The charging set is employed to charge (in sections) a battery of 36 Tudor cells, which is divided up into six sets of six cells, to secure greater constancy of voltage, so that each floor may have the use of a separate set. Vertical cables carry the current from the direct current generator and the alternator and from the cells to four distributing exchange boards on each floor, where each working bench is provided with a circuit (to carry 50 ampères) running to the corresponding distribution board. Here, by means of flexible connexions, the bench circuit can be connected up with the various voltages. From the battery switchboard three wires run to each of the three exchange boards, which, by flexible connexions, can be connected up with the battery switchboard, so as to be supplied with current at four, eight, and 12 volts. Of the electrical equipment, one of the most conspicuously interesting features will be the electrical furnace, which will be capable of developing a heat of 4000 degrees, an intensity quite sufficient for the melting of a common brick. On the ground floor there are a lecture room with accommodation for between 80 and 90 students, a library, and a preparation room, besides a workshop and a photographic room. The second floor contains a large elementary laboratory for 21 students, a research room for advanced students, and an additional research room which will be appropriated to the use of members of the staff. On the same floor there will be the optical room, a storeroom for instruments, and a balance room. The senior laboratory, with accommodation for eight students, is on the second floor, which also contains a balance room and four other rooms which will be devoted to research work; while the flat roof of the building is so arranged as to give additional accommodation for students as required for certain classes of experimental work. The working benches in the laboratory and research rooms will be supplied with gas, water, and electricity. Close to each bench is a fireproof slab composed of compressed red Ruabon tiles set in cement, which material, excepting in the case of the supports for balances, is used throughout instead of slate. Rooms intended for ordinary teaching work are fitted with benches of the usual type, but for greater convenience several of the research rooms are equipped with moveable tables. Mainly the lighting is effected by incandescent gas-burners on brackets or pendants, but in certain departments, including the fume-chambers, Tantalum electric lamps are brought into use. Professor F. G. Donnan, who is to take charge of the new laboratory when it is completed, has personally superintended the carrying out of the electrical equipment. Some idea of the extent of the equipment may be derived from the fact that six miles of wire and nearly four and a half tons of brass have had to be utilised. It is expected that the installation of the machinery and apparatus will be completed and the laboratory will be in readiness for the commencement of its work in about a month's time. The holding of the formal ceremony had been fixed in advance of the actual completion of the laboratory solely with the object of securing the attendance of a distinguished company of foreign men of science. Sir Henry E. Roscoe was, unfortunately, unable to be present and Professor Bredig (Heidelberg) and Professor Guye (Geneva) telegraphed their good wishes for the success of the new laboratory. Sir William Ramsay delivered a very interesting address, prior to which Mr. Willink, one of the architects (on the invitation of the Vice-Chancellor, Dr. Dale, who presided in the absence of the Earl of Derby), presented to Sir William Ramsay a beautiful gold key of the new building.

St. Luke's Day Annual Medical Service.

The annual service for members of the medical profession, which owed its inception (in 1901) to the public spirit of Mr. Frederick Walter Lowndes, was held on Oct. 14th (for St. Luke's Day) at St. Luke's Church. The sermon was preached by the rector of Liverpool (Canon Kempthorne). The Bishop of Liverpool read the lessons and the service was largely attended. The collection, which realised £25, will be devoted to the British Medical Benevolent Fund.

Liverpool Country Hospital for Chronic Diseases of Children.

Great progress is being made with the new Liverpool Country Hospital for Children, which is being erected in a very salubrious spot at Heswall, and it is now hoped that the central block and the administrative block will be ready for opening and for occupation in August, 1907. The public has been most generous in its contributions to this institution which it is expected will be invaluable as a hospital for the chronic diseases of children. The building is rapidly rearing its head and is quite an object of interest on the main road from Heswall to Thurstaston.

The Care of Epileptics and Imbecile Paupers.

The joint committee of the Liverpool select vestry and the West Derby board of guardians, with regard to the scheme for providing accommodation for imbeciles and epileptics which had been vetoed by the Local Government Board, has arranged that a deputation should wait on the President of the Local Government Board with the view of obtaining his sanction to the carrying out of the suggestions of the committee. The committee is of opinion that a great deal of hardship and suffering are endured and money wasted through the present arrangements by which epileptics and imbeciles are housed by the two unions. The parish of Liverpool is prepared to provide accommodation for the epileptics and the West Derby union for the imbeciles. The subject has already been referred to in THE LANCET of Sept 22nd, p. 832, where it was stated that the Local Government Board considered that there were legal difficulties in giving effect to the arrangements proposed by the joint committee in their present form.

New Infirmary for Children.

Her Royal Highness the Duchess of Albany has kindly consented to perform the opening ceremony in connexion with the new Infirmary for Children. The committee hopes that Her Royal Highness will afterwards attend the ball to be held on behalf of the funds of the new hospital. A date for the dual event is being arranged in January next.

Oct. 16th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Infirmary.

IT has been the policy of the managers of the Cardiff Infirmary during the past few years to ask for contributions which shall be allotted to definite purposes and in this way many important improvements have been made in the infirmary buildings. About two years ago Lord Tredegar gave £700 for the purpose of providing verandahs to certain wards. These have now been used sufficiently long to test their utility and it is satisfactory to find that the medical board has passed a definite resolution expressing its high appreciation of the immense service rendered by their use in promoting and accelerating the recovery of many patients, medical and surgical, treated in the open air, besides conducing greatly to the comfort and general happiness of many others.

Treatment of Tuberculosis under the Poor-law.

The Newport (Mon.) board of guardians has decided to utilise a house situated near the workhouse as a sanatorium for those inmates of the workhouse who are suffering from pulmonary tuberculosis. This decision has been come to upon the recommendation of the medical officer to the workhouse (Dr. T. G. Macormack) who pointed out in a special

report on the subject that it was very undesirable to allow tuberculous patients to mix with other persons in such close proximity as was of necessity the case in a general ward. He also laid stress upon the disturbance to other non-tuberculous patients by the distressing cough which accompanies the later stages of pulmonary tuberculosis.

Vagrancy.

The conference of Poor-law delegates from the South-western counties which met at Bath on Oct. 11th passed a resolution approving the recommendations of the Departmental Committee on Vagrancy except that with respect to labour colonies these should be exclusively under State control. In the discussion which took place on this subject Mr. G. P. Gooch, M.P., said that the Poor-law system was hopelessly and utterly incapable of dealing with vagrancy; its only influence seemed to be to increase rather than to diminish it. Some form of compulsory detention must be introduced for the incorrigible and quasi-incorrigible. When the vagrants had served their term of compulsory detention they must not be sent back straight into the world, but there should be some intermediary institution between the penal colony and the return to the world. Mr. H. Preston Thomas, Poor-law inspector of the Local Government Board, agreed that the vagrants should be dealt with by the police and not by the Poor-law authorities.

Sewage Disposal at Yeovil.

The Yeovil corporation has issued to the inhabitants of that town a statement with regard to the failure of the septic tanks as a means of treating the sewage of the borough. Some particulars relative to the breakdown in the tanks, which is, of course, a very serious matter, were given in THE LANCET of Oct. 13th, p. 1030. An engineer has been requested to investigate the circumstances and to submit a report.

Sanitary Matters in the Tavistock Rural District.

A meeting of the Tavistock (Devon) rural district council was held on Oct. 11th to consider the report of Dr. R. Deane Sweeting of the Local Government Board with regard to the sanitary condition of the district. A reference has been made to the report in THE LANCET of Oct. 13th, p. 1031. After some discussion the matter was referred to a committee for consideration. The *Western Morning News*, in alluding to the utter inefficiency of the system under which the sanitary supervision of the district is carried out, urges the importance of whole-time medical officers of health appointed by the county council and wholly independent of local interests and control. The paper states that the present medical officer of health has a district covering nearly 240 square miles of very difficult country at a salary of £70 per annum, and adds that it is false economy which maintains so unworkable a system.

Oct. 16th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Alterations in the Buildings of the University of Edinburgh.

THE new engineering department of the University of Edinburgh was opened formally on Oct. 16th by Dr. Andrew Carnegie. The removal of this department from the older buildings has set free room which has been utilised in the following way. Those who know the old buildings will remember that the engineering department was on the north side of the quadrangle in the basement. Here halls have been made for the use of the associated and other students' societies; one is sufficiently large to hold about 200; another room is for the Students' Representative Council, with a small room attached to serve as an office; and a third room is for the non-associated societies. An entrance has been made to these rooms from Chambers-street. The rooms have been heightened by lowering the floor a couple of feet, while more light has been obtained by enlarging the windows looking into the quadrangle. Another change of a useful kind has been the placing of a boiler in the basement in the north-west corner of the building as part of a scheme for the warming of the rooms from a central point.

Extension of the Edinburgh University Union.

The latest and the largest extension of the Edinburgh University Union is to be opened formally on Friday, Oct. 19th, when the Right Hon. Arthur J. Balfour and the Right Hon. R. B. Haldane, respectively the Chancellor and the Lord Rector of the University, are expected to be present. Owing to the increasing use the students have made of their union in recent years it was found absolutely necessary to add largely to the original building. An idea of what this means is to be gathered from the fact that instead of 600 members the membership now numbers 1200. The increase in the popularity has been largely due to the committee of the union taking the catering into its own hands instead of letting it out. The original building and equipment cost £16,000 while £26,000 is the figure put on the additions and alterations. The additions have been made to the west of the original building on ground between it and the Reid Hall, on which, in days not so long past, there stood a building originally used as a chapel but more recently used as one of the extra-mural lecture rooms. The new buildings include a large new library, a large new reading room (also available as a small hall), writing room, committee room, and two fives courts. The old library and committee room have disappeared to provide a large square entrance hall instead of the original cramped and confined entrance hall. To meet the cost of these expenses the union has already raised £8000 and Sir Donald Currie and Dr. Andrew Carnegie have each promised £6000 if the remaining £6000 be made up within a year. The raising of the additional £6000 will be a great tax on the friends of the union. The students in Scotland do not belong to the wealthy classes; it says much for them and the friends of the union that they have already raised over £8000 for the extensions and that they have had the courage to go forward as they have. The union is an admirable factor in student life, and in view of the excellent and courageous manner in which it has been conducted and developed it is well entitled to whole-hearted support and assistance.

New Public Dispensary for Glasgow.

At a meeting convened by the Lord Provost of Glasgow last week it was decided to establish a public medical dispensary in the Anderston district of the city. It was pointed out at the meeting that in the district suggested there was a population of between 60,000 and 70,000 people, the larger proportion being of the working class. While it is proposed that the dispensary should cover generally the lines followed by similar institutions, special attention will be given to women's diseases and the diseases of infancy and childhood, and it is hoped that the corporation will thus be aided in dealing with infantile mortality and consumption. There is no doubt that this new dispensary will tend to relieve the congestion at the out-patient departments of the various hospitals of the city, but on the other hand its existence may make a considerable difference to those medical men whose practices abut upon the district affected.

Moffat Cottage Hospital.

There has just been opened at Moffat a cottage hospital to be utilised for non-infectious cases. The hospital has been erected by means of a fund which came into existence about the year 1891 as the sequel to the memorable litigation between the working men of the town, the trustees of the Working Men's Institute, and the Proudfoot Endowment trustees. An institute and reading-room was erected by voluntary subscription in 1886, principally for working men, and was carried on by trustees and managers appointed by the subscribers until 1890, when the buildings and furnishings were sold to the Provost and magistrates of the burgh, trustees under the will of the late William Proudfoot of Natal, who bequeathed the residue of his estate for a similar purpose. An attempt by the working men to contest the legality of the sale failed in court and an action of multiple poinding was afterwards raised to determine the rights of parties to the proceeds of the sale, in which action it was decided by the court that the proceeds fell to be returned to the original subscribers or their representatives. The majority agreed to allow their subscriptions to be applied for the foundation and endowment of a cottage hospital and in this way the sum of £1269 7*s.* 9*d.* was paid over by them to trustees for this purpose. With the inauguration of the hospital the management of the District Nursing Association, carried on for fourteen years by a committee of ladies, becomes amalgamated with the management of the new institution.

Oct. 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Action of the X Rays on the Ovary of the Bitch.

M. Bouchard read a paper on this subject at a recent meeting of the Academy of Medicine. The experiments in question were made by M. Roulier. Last year three observers showed that the x rays in weak doses could bring about atrophy of the ovary in rabbits. M. Roulier repeated these experiments upon both rabbits and bitches and found that the x rays had an elective action on the ovaries. In very small animals atrophy could be easily brought about without the production of any loss of hair. In the bitch, however, it is very difficult to obtain, even though the administration of the x rays was carried to the extent of bringing about lesions of the skin. It would appear impossible to bring about atrophy of the ovary in woman, since experiments upon the corpse of a woman showed that x rays No. 10 were unable to modify the colour of a radiometric pastille placed over the ovary.

Wounds of the Stomach treated by Laparotomy.

At the Nineteenth Congress of the French Surgical Association, held in Paris from Oct. 1st to 6th, M. Auvray described three recent cases of wounds of the stomach treated surgically. With these cases, added to those which he has already published, the number of patients operated on by him is brought up to seven, among whom there were four recoveries and three deaths. He considers that it is very important to make a large opening in the gastro-colic mesentery for the purpose of exploring the posterior aspect of the stomach so as to ascertain if there is a wound there. Too small an opening makes the exploration very difficult and he has found that in freely incising the gastro-colic mesentery in the transverse direction several vessels might be divided without risk to the vitality of the intestinal walls. This opening is, however, often insufficient, and M. Auvray has therefore been led to investigate the indications for exploratory gastrotomy. Although this operation is the best means of exploring the posterior aspect of the stomach it must not be systematically resorted to in all cases, for it increases both the duration and the seriousness of the operation necessitated by the wound. In coming to a decision the principal points to be considered are the nature of the wound, the condition of the stomach as regards fulness or emptiness at the time of the injury, and the circumstances in which the injury was inflicted. Exploratory gastrotomy will probably be of most use in wounds caused by projectiles and in cases where the stomach was empty when wounded.

Suture of Arteries.

At the same congress M. Ziembicki said that he had performed suture of arteries three times. In his first patient the inferior thyroid artery was torn during the removal of a cancer of the neck. The artery was injured at its origin on a level with the bifurcation of the carotid artery. Hæmorrhage occurred on the tenth day and the patient succumbed. The second patient suffered from a traumatic aneurysm of the radial artery; the suture held quite well and recovery was complete. The third patient suffered from a diffuse aneurysm of the popliteal artery; catgut sutures were employed and on examination ten days afterwards firm union was found. The result was excellent.

Wounds of the Liver.

At the same congress M. Legueu discussed the surgery of the liver. He said that he had operated four times for wounds of that viscus; three of the patients had been shot with a revolver and one had been stabbed with a knife. In the case of the three former he operated as soon as he saw the patients from two to four hours after the injury. They all recovered; one, however, had for some weeks a considerable biliary fistula which eventually closed spontaneously. In one of the cases the bullet remained in the liver; in another one it lodged in the wall of the femoral artery on the right side and was extracted. These three cases show the advantage of laparotomy after bullet wounds of the liver. With regard to the patient who had been stabbed it was found at the operation that the wound extended right through his liver and a fatal termination was the result. M. Legueu considered that in such cases suture was useless and dangerous. In order to reduce the length and the shock of the operation he always contented himself with inserting a drainage wick in the wound.

Malaria and the Soil.

At a meeting of the Academy of Medicine held on Oct. 2nd M. Kelsch protested against the limited view taken by the pathologists who considered that malaria was transmitted exclusively by means of the anopheles mosquito. By a series of examples taken principally from the last great epidemic of malaria in Madagascar he endeavoured to show the powerful influence of the soil in the production of malaria. He said that in malarious countries even the slightest disturbance of the soil gives rise to an epidemic which is severe in proportion to the duration of the work and to the quantity of earth disturbed. In Madagascar it was along the roads in course of construction that the disease was most intense. In his opinion the causes which led to sudden outbreaks of malaria were either (1) a considerable rise of temperature with wide diurnal and nocturnal variations or (2) excessive fatigue. Severe epidemics of malaria were known to have followed long marches and expeditions of considerable duration. The nature and quality of the food that was taken were also not without an appreciable effect. The drinking of impure water might contribute to the transmission of the disease.

Syphilis in Respectable Women.

At the same meeting of the Academy of Medicine M. Fournier made a reference to the occurrence of syphilis in respectable women, a subject on which he is universally recognised to be an authority. He said that statistics collected in his own practice showed that among women suffering from syphilis 20 per cent. were respectable married women who usually became infected in consequence of their husbands having contracted the disease before marriage. He quoted statistics of syphilis communicated by the husband to the wife, the result being that the husband had contracted the disease in 218 cases before marriage and in only 94 cases after marriage. When a woman was infected by her husband who was syphilitic before the marriage she usually exhibited the symptoms during the first six months after marriage. M. Fournier has seen cases in which women were infected by their husbands who had contracted syphilis seven, eight, and nine years previously.

Influence of the Motor-car on Health.

M. Legendre has been studying this question and read an account of his researches before the Therapeutical Society on Oct. 10th. The rapid displacement of air over the surface of the skin produces a feeling of freshness due to vaso-constriction. This is followed by a vaso-dilatation when the car stops. These modifications in the circulation have an influence upon certain affections of the skin. Upon pulmonary affections the effect of the motor-car is variable, but in general those suffering from emphysema and certain cases of nervous asthma find benefit. Motoring should be forbidden to tuberculous patients whose temperature is raised. Short journeys in a motor-car seem to have a good effect in cases of chlorosis and motoring may be permitted to patients suffering from morbus cordis who have good compensation but not otherwise. Motoring is also useful in cases of anorexia, gastralgia, and chronic constipation but is harmful in cases of gastric ulcer. Nervous patients suffering from depression are improved in health, those suffering from exaltation are made worse, and the same is the case with epileptics and alcoholics. Cases of gout and diabetes improve owing to the plentiful supply of air which they obtain.

Oct. 15th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Stovaine.

CLINICAL experience in the Italian schools continues to justify the expectations with which some three years ago stovaine was ushered into practice by the French pharmacologist Fourneau. In a review of its effects Dr. Ernesto Mancini holds that, its toxicity being twofold less than that of cocaine, it exerts on the heart no detrimental action whatever; nay, in doses not excessive it may safely be exhibited as a cardiac tonic. Its bactericidal virtues are already admitted, destroying as it does within five minutes all the germs contained in a highly impure water to which a solution of it in the proportion of 25 per 1000 has been added. Confirming its anæsthetising power, Dr. Mancini shows how thoroughly it can induce insensibility in the lower half of

the body when injected into the vertebral column at the level of the lumbar vertebræ, the anæsthesia remaining for 40 minutes unimpaired without the untoward concomitants of cocaine and leaving the surgeon ample time to complete his operation. In eye affections such as cataract and strabismus, in the various forms of gastralgia, in the neuralgias, and in dental pain it adds an aid to treatment as safe as it is certain, obviating all the discomforts, not to say the terrors, formerly associated with clinical intervention.

The Railway Disaster at Piacenza.

Italy is still vibrating with the shock of the terrible accident on the much-frequented Milan-Piacenza-Bologna-Florence line. Five dead and some 50 injured, more or less gravely, such is the latest return issued as to the number of the victims. Pending the commission of inquiry now at work the most serious hypotheses are hazarded as to the cause. That which held the field in the first instance and is not even yet abandoned ascribed the accident to the notoriously bad quality of much of the rolling stock—a cause, be it remembered, which was held responsible for the frightful disaster which overtook the train leaving Rome in the August of 1900, with its crowd of passengers returning from the funeral obsequies of the assassinated King Humbert. Another view of the accident finds its cause in the "deragliamento" of the train when rounding a very sharp curve at a high rate of speed. But whichever hypothesis proves the correct one the fact brings home to the directorate of the Italian railways the gravest of warnings as to the consequences which such accidents must have on Italy's main source of revenue—the annual influx of visitors. The society for encouraging and promoting that influx—a society including not only representatives of the hotel-keeping and commercial interests but also members of both Houses of Parliament impressed with the value of the "human import"—seems to lavish its attention on every other means of making Italy "attractive," while neglecting the essential conditions of safe transit, comfortable entertainment in properly appointed hotels, and (not least consideration in this regard) suppression of Custom House vexations and luggage robberies. While these conditions remain as they are at present, that is, as powerful "deterrents," it is idle to hold out "lures and baits" in the cities themselves which are supposed to be the objects of interest—the moral *termini ad quos*—of the foreign visitor. The Roman "passeggiata archeologica" (or promenade through the most impressive monuments of antiquity) may deserve all the praise merited by its conception and its engineering ingenuity; but such attractions lose well-nigh all their charm when not preceded by safe railway access to the city itself and not accompanied by adequate provision for health and comfort within its walls. I am glad to see that the more weighty of the organs of public opinion are agitating the "foreign import" question in this sense—with, let us hope, the desired result of reducing to a minimum the risks and the "petty martyrdoms" too often associated with travel and residence in Italy. To return to the disaster at Piacenza. Among the sufferers by it is Professor Amico Bignami of the Roman Medical School, reported as "gravemente ferito." The professional world will join in fervent wishes for the speedy and permanent recovery of a colleague so eminent in nature-study and in clinical practice.

Oct. 15th.

THE UNEMPLOYED WORKMEN ACT.—The Local Government Board has issued two circulars to the distress committees outside London relative to the sum voted by Parliament in aid of expenses under the Unemployed Workmen Act. Circular No. 1 has been sent to the distress committees from which the Board is prepared to consider applications for a grant and No. 2 to the others.

ROYAL EAR HOSPITAL.—A concert will be held under the patronage of H.R.H. Princess Christian of Schleswig-Holstein in aid of the Royal Ear Hospital, Dean-street, Soho, London, at 35, Grosvenor-square, W., by kind permission of the Duke of Somerset, on Tuesday, Nov. 6th, at 3 P.M. Some well-known artistes have kindly promised to assist. Tickets, of which the price is 1 guinea each, may be obtained from the Duchess of Somerset, 35, Grosvenor-square, W.; from Miss Edith Kirkwood, 8L, Hyde Park Mansions, W.; from Mr. Richard Lake, 60, Harley-street, W.; or from the secretary, Royal Ear Hospital, Dean-street, Soho, W.

Obituary.

JAMES FINLAYSON, M.D., LL.D. GLASG., F.F.P.S. GLASG.

Dr. James Finlayson died, in his sixty-sixth year, at his residence, 2, Woodside-place, Glasgow, on the afternoon of Tuesday, Oct. 9th. Entirely unexpected by all, except perhaps by a very few of his most intimate personal friends, the sad event came as a shock not only to his professional brethren but to the entire community of Glasgow, amongst whom he was well known and deservedly popular. On the day before he had apparently been in his usual health and had visited his wards in the Western Infirmary. On the evening of Monday, however, he suffered from sickness and vomiting and retired early. At about 5 o'clock on Tuesday morning the sickness returned and soon afterwards an apoplectic seizure accompanied by hemiplegia supervened. In a very short time he passed into a state of coma which terminated in death at about half-past two o'clock in the afternoon, just about the time when the funeral of his friend and former colleague, Mr. Hugh Brown, late chairman of the house committee of the Glasgow Royal Infirmary, was passing his door.

James Finlayson was born in Glasgow on Nov. 22nd, 1840. His father was Mr. Thomas Finlayson, a manufacturer in the city, and his mother was Miss Georgina Campbell, the daughter of an army surgeon. At the "Southcroft Club" which met on Saturday evenings at his father's house, literary, political, and philosophical questions were in the winter discussed, and his circle of University friends was increased by the addition of others, of whom Dr. (now Sir) R. Giffen, C.B., was afterwards the best known. All who knew Dr. Finlayson will readily recognise the influence which such early advantages had on his whole future career. They moulded the man and made him what he was.

His education was commenced at the high school of Glasgow and in 1856–57, at the age of 16 years, he joined the University as an arts student. From 1857 to 1862 he was engaged in his father's business and he entered upon his medical curriculum at the University in 1863–64. Among his class fellows were the late Professor Joseph Coats, Sir Hector C Cameron, Dr. Thomas Barr, and Dr. Gavin P. Tennent. His academic career was singularly brilliant and on May 16th, 1867, he took the degree of M.B. "with honours," at the same time becoming a Licentiate of the Royal College of Surgeons of Edinburgh. Of his professors only Lord Lister and Sir William T. Gairdner, K.C.B., now survive. At the time of his graduation as M.B. a thesis was required and the subject of Finlayson's was the Value of Quantitative Methods of Research in Medicine and the Allied Sciences. On May 17th, 1869, he received the degree of M.D., and 30 years later, on April 18th, 1899, in recognition of his writings on practical medicine and medical history and biography, his *alma mater* conferred upon him the degree of LL.D. He became a Fellow of the Faculty of Physicians and Surgeons of Glasgow in 1871 and six years later he was appointed honorary librarian of the Faculty, an office which he held for a quarter of a century. In 1899 he was elected visitor (Vice President) of the Faculty and from 1900 to 1903 he occupied the honourable office of President. During his whole professional life Dr. Finlayson was a hospital physician and in 1871 he began clinical teaching which he continued without interruption till his death. From 1871 to 1874 he was clinical tutor to Sir William Gairdner at the Glasgow Royal Infirmary. In 1875 he entered on his duties as physician to the Western Infirmary where he laboured till the end. At the opening of the Royal Hospital for Sick Children, Glasgow, in 1883, he was appointed one of the physicians, an appointment which he resigned in 1898 when he became consulting physician to the hospital.

Amidst all the labours of a busy physician Dr. Finlayson's pen was never idle and as a result the profession is to-day richer by a large number of valuable contributions to the literature and history of medicine. His largest work was the well-known "Clinical Manual," which, first published in 1878, has reached three editions in this country and, under the title of "Clinical Diagnosis," two in America. He wrote the article on "Diagnosis" in Keating's "Cyclopædia of the Diseases of Children," published in 1889 by the J. B. Lippincott Company of Philadelphia. His most important biographical works

are the "Account of the Life and Works of Maister Peter Lowe, the Founder of the Faculty of Physicians and Surgeons, Glasgow," and the "Account of the Life and Works of Dr. Robert Watt, Author of the 'Bibliotheca Britannica.'" His contributions to the British and foreign medical press number about 150 in all; a detailed account of them is to be found in the *Glasgow Herald* of Oct. 10th and in the library of the Faculty of Physicians and Surgeons. In addition to all this must not be forgotten his arduous and self-sacrificing labours as honorary librarian of the Faculty. Many hard but ungrudged hours of his working life were devoted to its interests. In association with his friend, Alexander Duncan, LL.D., librarian and secretary of the Faculty, whose ready help and profound bibliographical knowledge were ever at his call, and with the hearty collaboration of his colleagues of the library committee, he succeeded in making the library of the Faculty one of the finest and best catalogued collections of medical books in Scotland, particularly rich in medical history and ancient literature. In recognition of his labours when he resigned the office in 1901 the Faculty presented him with an address of thanks engrossed on vellum. Dr. Finlayson also performed an important service to the *Glasgow Medical Journal* by acting as convener of its index committee. In spite of great difficulties he organised the work of preparing an index of the journal from its beginning in 1828 down to the year 1888. The duty of preparing the index was intrusted to the late Dr. Malcolm McMurrich but the work was supervised by Dr. Finlayson throughout.

As a man Dr. Finlayson was honourable, courageous, loyal, and affectionate, inspiring the love and respect of all with whom he came into contact, whether his fellow citizens, his pupils, or his colleagues. His mind was exact, painfully seeking after truth and scientific accuracy. His judgment was matured and impartial and his opinion was always eagerly sought on all questions of doubt or difficulty. Quiet and unassuming, he owed his eminent position in professional circles to the confidence and respect which he inspired in others. The high place which he occupied for many years among his colleagues in Glasgow and in the business circles, where medical skill and professional service are required, was spontaneously assigned to him, not sought by himself. This is high praise but not more than his memory deserves. He possessed the critical faculty in the highest degree, indeed as some thought in perhaps too high a degree; the result was, however, that if any project received his approval it generally turned out to be right. His judgment in insurance work was highly valued by the clear-sighted business men of Glasgow, and at the hospital board, on which at various times he was called upon to serve, his opinions were always received with the highest respect. In opposition he was strong but his views were expressed calmly and courteously, supported by clear reasoning, and received with the weighty consideration which they deserved by those who thought differently from himself. The keynote of all his life's work as a teacher was thoroughness. He had no belief in mere book knowledge, although he had the greatest faith in the value of books as a medium of instruction. He had none of the rhetorical power which made the reputations of the great systematic lecturers of former days; indeed, he believed that the day of systematic lecturing was past. His high aim in medical teaching was the thorough practical and scientific training of the student. Systematic instruction could be obtained by the judicious use of good text-books under the guidance of a medical tutor. Books to be serviceable must be used as works of reference in the laboratory or at the bedside; to tell the worker what to do and how to do it and to verify the work that was being done. He had no great belief in large classes or huge laboratories, where most of the work which the student under proper guidance should do for himself was done for him and where as a necessary result the instruction imparted resolved itself into a series of carefully prepared systematic demonstrations. In the wards he did not think it possible to impart to large numbers of pupils that thorough individual training which made a man able efficiently to investigate a case for himself and to initiate successful treatment. In his own work as a clinical teacher such ideals always inspired him. No detail was too insignificant, no trouble too great, no illustrations too homely, if thereby he could teach a single student effectively to percuss the chest, to palpate the abdomen, to use a stethoscope, or to treat a case. He clearly recognised that the elements of clinical methods might be safely intrusted to efficient assistants but that the greater matters of prognosis, diagnosis, and treatment should be dealt with by the chief alone. That his method was successful is proved by the widespread opinion that Dr. Finlayson's students generally turned out to be good practical men when their studies were ended, whether they afterwards devoted themselves to scientific research or to private practice.

Apart from his medical studies Dr. Finlayson was a man of wide culture and general reading. He was genuinely interested in literature, especially in poetry, archæology, and theology. Although a great medical librarian and bibliographer he was in no sense a collector of books; his private library consisted chiefly of works of reference, amongst which dictionaries of all kinds abounded. In all his work it was a necessity of Dr. Finlayson's mind that his statements and conclusions should be accurate and exact; hence the necessity he felt for all works that assisted towards this end. He believed that some knowledge of medical history might supply the lack of experience which all young practitioners must feel, and this belief inspired the demonstrations on medical bibliography which he frequently gave in the library of the Faculty. He was essentially a religious man and his walk and conversation were characterised by a deep and unobtrusive piety. His interest in the welfare of his assistants and students was unfailing. He followed them in their career after they had gone out into the world and whenever possible he encouraged them on their way. As an example of this unselfish sympathetic interest it may be mentioned that after the death of his old assistant, Dr. John Moyes of Largs, he with infinite trouble carried through the press that gentleman's work on medicine and kindred arts in the plays of Shakespeare. He was generous in his support of all charitable institutions for the amelioration of the hard lot of the poor and suffering in the city, indeed, in all the relationships of life Dr. Finlayson was a man whom his fellows loved and delighted to honour and his place in Glasgow will not be easily filled.

For many years Dr. Finlayson enjoyed a large and important consulting practice in Glasgow and the west of Scotland and since the retirement of Sir William Gairdner no physician in that part of the country stood higher in the estimation of his medical brethren. His remains were cremated at the Western Necropolis on Oct. 12th and the respect in which he was held was amply proved, not only by the large number of medical men, many of whom had travelled long distances, who assembled to pay their last tribute of respect to their lost friend, but also by the presence at the funeral of many of Glasgow's influential citizens. Dr. Finlayson was never married and he leaves a brother and a devoted sister, who was his life-long companion, to mourn their loss.

JOSEPH MAY, L.R.C.P. EDIN., L.F.P.S. GLASG., L.A.H., J.P.

Mr. Joseph May died at his residence, Rathfriland, county Down, Ireland, after a short illness on Oct. 8th, at the advanced age of 90 years. The deceased was a native of county Down, having been born in Closkett, near Dromara. After studying at the school of the Royal College of Surgeons in Ireland, he took the diplomas of L.A.H. in 1844, L.R.C.P. Edin. in 1859, and L.F.P.S. Glasg. in 1860. He practised all his life in Rathfriland and from 1866 to 1881 (when his nephew, Mr. J. M. Elliott, succeeded him) he was dispensary medical officer for the Rathfriland district. During the last quarter of a century he has practised very little. He was a justice of the peace for county Down and took a great interest in the affairs of the Presbyterian Church (of which he was a member) and of its orphan society. Mr. May was a man of great ability, native shrewdness, and extreme kindness of disposition. For many years he had the best practice of his district, and, apart from his professional skill, he endeared himself to all his patients by his affability and true kindness. A man of the keenest humour, a most amusing companion, a brilliant *raconteur*, and a man of wide reading, he was *par excellence* the "character" of Rathfriland for many years. Hospitable to the last degree, there was no more enjoyable dinner-table in county Down than his. He was a great friend of Captain Mayne Reid the novelist (both came from the same district), and there is a story current in Rathfriland that when on one occasion that

popular writer (some say it was in "The Headless Horseman") had difficulty in extricating his hero from what seemed an impossible *impasse*, he consulted his old friend Mr. May who at once solved the question. The world is all the poorer by the death of the popular and genial Mr. May.

TOM WALKER, M.B., B.S. LOND, M.R.C.S. ENG., L.R.C.P. LOND.

A REMARKABLE career has been brought to too early a close by the death of Dr. Tom Walker, and Manchester has lost, in the words of an obituary notice, "a man of brilliant parts and considerable promise." But he lived long enough to show how a man with the requisite character and mental qualifications may take his own way through the world. He began his independent life as a pupil teacher in a Manchester board school and while there won a scholarship which enabled him to go to St. John's Training College at Battersea. After two years' residence he received a certificate as a public elementary schoolmaster and became an assistant master in the service of the Manchester school board. He worked as a teacher for six years and then, at the age of 28, he decided to give up that calling and to begin the study of medicine. In the meantime he had taken the B.Sc. at the University of London. He entered at the medical school at the Owens College and for some years as a student the struggle was hard; but it was soon evident that not only his courage but his abilities were exceptionally great. He obtained, and was indeed the first holder of, the Professor Tom Jones Memorial Scholarship of £100. In 1901 he qualified as M.R.C.S. Eng., L.R.C.P. Lond. In 1903 he became M.B. Lond. and last year he obtained the B.S. Lond. degree. So that the whole of his short life was spent in strenuous work. For a while he was demonstrator of anatomy at the Owens College and held various positions, as house surgeon at the Southern Hospital and at the Royal Infirmary. He was also for a time resident medical officer to the Manchester workhouse infirmary and at the time of his death was surgeon to the large Manchester workhouse schools at Swinton; and in general practice, as well as in these various appointments, the testimony is that he won the esteem and regard of all who knew him. His ambition was to become the medical officer of an education authority, for which, indeed, he had special and unusual qualifications. He had great practical knowledge of children, gained during the years spent in teaching, a thorough grasp of the principles and practice of school hygiene, and special knowledge of diseases of the eye and ear, and it would have been difficult to find anyone better fitted to deal with that increasingly important branch of medical work. During the past summer he gave great assistance to Dr. A. Brown Ritchie in the systematic testing of the sight of the children in the public elementary schools in Manchester on behalf of the education committee. He was never physically robust and in his striving onwards and upwards without pause and ever, as it were, straining at the leash, there is no doubt that his strength was overtaxed. At the time of his death he had just passed his thirty-seventh year. His funeral took place at the Manchester crematorium and the large attendance of medical men and nurses and of representatives of the various institutions which he had served was evidence of deep and widespread sympathy and of the esteem in which he was held.

GEORGE COLE-BAKER, M.D. DUB., L.R.C.P. IREL.

Dr. George Cole-Baker of Totton, Southampton, died somewhat suddenly from heart disease on Sept. 26th at the age of 46 years. He received his professional education at the University of Dublin where he graduated as M.B. in 1891; in 1899 he proceeded to the degree of M.D. and also took the diploma of L.R.C.P. Irel. He held the appointments of assistant to the master of the Coombe Lying-in Hospital and examiner in midwifery and gynæcology in the University of Dublin but he gave up his prospects of success in that city in consequence of symptoms of heart disease making their appearance. He was for a time assistant medical officer of health at Whitby in Yorkshire, where he held the appointments of surgeon to the cottage hospital and physician to the isolation hospital. He then removed to Bexhill in Sussex and about four months ago went to Totton with the intention of joining Mr. H. A. Sheppard in partnership. The coroner decided that an inquest was not necessary, as Dr. Cole-Baker's death was evidently due to natural causes.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. Manuel Blancas, professor of children's diseases in the University of Buenos Ayres.—Dr. E. Adamiuk, formerly professor of ophthalmology in the University of Kazan.—Dr. N. Bistroff, formerly professor of children's diseases in the Military Medico-Chirurgical Academy, St. Petersburg.—Dr. Y. Weinlechner, formerly extraordinary professor of surgery in the University of Vienna.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the Second Professional Examination in Anatomy and Physiology held on Oct. 4th, 5th, and 8th:—

Kakobad Cowasji Anklesaria, Grant Medical College, Bombay; Frank Robert Lowth Atkins, Guy's Hospital; Thomas Stratford Bradburn, Edinburgh and Birmingham Universities; Thomas Frederick Brown, Guy's Hospital; Algernon Edgar Percy Cheesman, Guy's Hospital; Rustom Nusserwanji Coorlawala, L.M. & S., D.P.H. Cantab., L.R.C.P. & S. Edin., Hyderabad, London and Edinburgh University; Caetano José Fernandes, Grant Medical College, Bombay; Charles Joshua Fox, Charing Cross Hospital; Archibald Louis George, L.D.S. Eng., Guy's Hospital; Frank Melville Harvey, St. Mary's Hospital; Wilfrid Lawrence Hibbert, Guy's Hospital; Sohrab Maneckji Khambata, L.M. & S., Grant Medical College, Bombay; Charles Eric Wells McDonald, Grant Medical College, Bombay, and King's College; Arthur Oscar Mitchell, Westminster Hospital; Arthur Morgan, B.A. Cantab., Charing Cross Hospital; Rupert Henry Nolan, Grant Medical College, Bombay, and University College; Max Nurick, Liverpool University; Philip Douglas Oakley, Leeds University; Jeremiah John O'Mullane, Queen's College, Cork; Jean René Perdrau, Guy's Hospital; John James Pierce, St. Mary's Hospital; William Thomas Quinlan, University College, Cardiff; David Davey Rosewarne, Otago University, New Zealand; Samuel Shepheard, St. Thomas's Hospital; Alan Richmond Snowdon, St. Bartholomew's Hospital; Richard Lionel Spittel, L.M. & S., Ceylon; Cecil Gordon Sprague, Guy's Hospital; Leonard Herbert Taylor, Charing Cross Hospital; Frederic Charles Victor Thompson, Guy's Hospital; Sohrab Shapoorji Vazifdar, L.M. & S., Grant Medical College, Bombay; and Charles Witts, Guy's Hospital.

The following gentlemen passed the examination in Practical Pharmacy held on Oct. 11th:—

Gordon Silvanus Ashby, St. Thomas's Hospital; Frank Basford, St. Mary's Hospital; Thomas Mulholland Bellew, Liverpool University; Robert Trail Brotchie, London Hospital; Guy Oldham Chambers, St. Bartholomew's Hospital; Arthur Fitzwilliam Comyn, B.A. Cantab., Cambridge University and King's College Hospital; Donald Maxwell Cox, Charing Cross Hospital; William Agar Scholefield Duck, private study; Herbert James Duske, St. Mary's Hospital; Maurice Mason Earle, Guy's Hospital; William Morgan Evans, University College, Cardiff; William Deane, St. Thomas's Hospital; Gilbert Egerton Green, University of Liverpool; David Henry Griffiths, University College, Cardiff; Sydney Harold Griffiths, Middlesex Hospital; Alfred Ernest Wilson Hird, Cambridge and Birmingham Universities; George Holman, Birmingham University; John Brook Henderson Holroyd, Sheffield University; Arthur Stanley Hoole, London Hospital; Rupert Llewellyn Jones, London Hospital and private study; Francis William Lastic, Sheffield University; David McRae, London Hospital and private study; Robert Telford Martin, London Hospital; Matthew William Baillie Oliver, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Frederick Whitly Quirk, St. Mary's Hospital; George Frederick Randall, Middlesex Hospital; Edmund Ralph Sircom, University College, Bristol; Edward Smeed, University College Hospital; Arthur Henry Leopold Thomas, Cambridge University and St. Mary's Hospital; Walter George Howard Masterman Verdon, Cambridge University and St. Thomas's Hospital; and Stanislaus Swonnel Morton Wood, Westminster Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of the Council held on Oct. 11th the undermentioned diplomas were conferred upon the following gentlemen who have now complied with the necessary requirements:—

Diploma of Fellow.—David Kirkpatrick Coutts, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Thomas's Hospital; and Robert Rutson James, M.R.C.S., L.R.C.P., St. George's Hospital.

Diploma of Member.—George Ford, M.B. Toronto, of Toronto University and University College Hospital; and Wilbert Ernest McLellan, M.B. Toronto, of Toronto University and London Hospital.

Licence in Dental Surgery.—Reginald Hudson Astbury, Birmingham University; Ernest Gibbon, Durham; William Alfred Helyar, Guy's Hospital; Percy Vivian Giles Pedrick, Guy's Hospital; and Charles Cook Pooley, Middlesex and Royal Dental Hospitals.

UNIVERSITY OF CAMBRIDGE.—Dr. G. H. F. Nuttall, F.R.S., of Christ's College, has been elected Quick Professor of Biology. The special department assigned to the chair

is the study of the protozoa, especially such as cause disease. Professor Nuttall resigns the readership of hygiene to which he was appointed in last Easter term. To him is chiefly due the institution of the University examination for the diploma in tropical medicine and hygiene.—The following have passed both parts of the Sanitary Science Examination and are entitled to the University diploma in Public Health:—

A. Baker, R. S. Beatty, F. E. Cane, R. W. Clements, E. McCall, H. A. Macewen, A. Martin, J. C. Mottram, F. Murray, N. R. J. Rainier, F. A. Smith, F. E. Taylor, A. G. Welsford, and F. A. Willis.

At the Congregation on Oct. 11th the following degrees were conferred:—

M.D.—S. E. Dore, St. John's.
M.B.—O. V. Payne, St. John's.
M.B. and B.C.—R. S. Taylor, Downing.

UNIVERSITY COLLEGE, BRISTOL: FACULTY OF MEDICINE.—At the annual distribution of prizes on Oct. 2nd the following were awarded:—Winter Session.—Medicine prize, A. E. Iles; certificate, L. Short. Surgery prize, A. E. Iles; certificate, L. Short. Hygiene prize, A. E. Iles; certificate, J. W. Willcox. Physiology—Part I.: prize, W. Reynolds; certificates, P. Veale, F. Morgan, G. Applegate, and A. Wigmore. Part II.: prize, R. Hiley; certificates, P. Veale, F. Morgan, A. Wigmore, W. Reynolds, J. Morgan, and G. Griffiths. Part III.: prize, P. Veale; certificates, W. Reynolds, G. Griffiths, E. Barker, H. Hull, and M. Lopez. Biology prize, S. Marle; certificates, H. Hiley, F. Nicholls, L. Watkins-Baker, J. Hudleston, T. Ashley, and W. Neale. Pharmacology prize, C. A. Joll; certificates, T. B. Dixon, E. Sercom, and S. H. Kingston. Senior anatomy prize, C. Joll; certificates, E. Holborow, T. Dixon, A. J. Wigmore, and F. Morgan. Junior anatomy prize, P. Veale; certificates, W. Reynolds, H. Hull, and J. Morgan. Summer session—Lady Haberfield entrance scholarship, P. Veale. Pathology prize, P. S. Tomlinson and J. Willcox (equal). Medical jurisprudence prize, P. S. Tomlinson; certificates, J. W. Willcox and A. E. Iles. Operative surgery prize, J. W. Willcox; certificate, A. E. Iles. Midwifery prize, B. A. Stone; certificates, C. Clarke, L. Short, and E. Sircom. Practical medicine, surgery, and midwifery prize, C. Clarke; certificate, E. Sircom. Materia medica prize, R. Hiley; certificates, F. Rippon and P. Veale. Practical chemistry prize, S. Marle; certificates, L. Watkins-Baker, V. Pinnock, and H. Hiley. Summer anatomy prize, P. Veale; certificates, R. Hiley, W. Reynolds, G. Griffiths, and H. Hull. Special prize in medical terminology, P. S. Tomlinson; certificate, J. W. Willcox. Clinical scholarships and prizes: Martyn memorial pathological scholarship (value £10), V. B. Green-Armytage. Tibbits memorial prize (value nine guineas) for practical surgery, H. Goodden. Suple medical prize and gold medal, V. B. Green-Armytage. Suple surgical prize and gold medal, P. Connellan. Augustin Prichard prize for anatomy, V. B. Green-Armytage. Clarke scholarship (£15) for proficiency during dressership, J. Blackett. Henry Marshall prize (£12) for proficiency during dressership, J. W. Willcox. Sanders scholarship (£22) for proficiency in medicine, surgery, and diseases of women, J. Blackett. Committee's gold medal, awarded to the student who has most distinguished himself during his career, J. Blackett. Committee's silver medal, awarded to the next most distinguished student, V. B. Green-Armytage.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The winter session commenced on Oct. 15th, when the following prizes of the previous session were distributed by Mr. H. R. Swanzy, the President of the College:—Barker anatomical prize (£31 10*s.*): P. G. M. Elvery. Carmichael scholarship (£15): C. Greer. Gold and silver medals in operative surgery: gold, D. Adams; silver, R. M. Bronté. Stoney memorial gold medal in anatomy: G. S. Levis. Descriptive anatomy: junior: W. A. Swan, first prize (£2) and medal; A. A. Pelissier, second prize (£1) and certificate. Senior: G. C. Sneyd, first prize (£2) and medal; I. Scher, second prize (£1) and certificate. Practical anatomy: first year: H. D. Gasteen, first prize (£2) and medal; H. G. P. Armitage, second prize (£1) and certificate. Second year: H. J. Hedley, first prize (£2) and medal; Miss I. M. Clarke, second prize (£1) and certificate. Practice of medicine: H. W. White, first prize (£2) and medal; D. Adams, second prize (£1) and certificate. Surgery: H. W. White, first prize (£2) and medal; T. Sheehy, second prize (£1) and certificate. Midwifery: H. C. Carden, first prize (£2) and medal; W. E. M. Hitchins and T. Sheehy (equal), second prize (£1) and certificate. Physiology: H. J. Hedley, first prize (£2) and medal; J. Menton, second prize (£1) and certificate. Chemistry: J. J. Lyons, first prize (£2) and medal; R. White, second prize (£1) and certificate. Pathology: H. F. Kay, first prize (£2) and medal; G. S. Levis, second prize (£1) and certificate. Physics: R. White, first prize (£2) and medal; R. H. Weir, second prize (£1) and certificate. Practical Histology: R. Adams, first prize (£2) and medal; O. W. J. Wynne, second prize (£1) and certificate. Practical Chemistry: J. J. Lyons and P. I. Wigoder (equal), first prize (£2) and medal. Public Health and Forensic Medicine: T. C. Boyd and C. T. Cullimore (equal), first prize (£2) and medal. Materia Medica: J. J. Lyons, first prize (£2) and medal; H. W. White, second prize (£1) and certificate. Biology: H. D. Gasteen, first prize (£2) and medal; J. S. Pegum, second prize (£1) and certificate.

THE PLAY OF THE CHILDREN OF THE POOR.—The Education Bill now before Parliament contains a clause granting powers to local educational authorities to deal with the recreation of the children attending the public elementary schools. For 17 years the Children's Happy Evenings Association has by means of 135 branches in 43 districts in London entertained many thousands of children, and as it was felt that the clause in the Education Bill might result in the extinction of the association a conference on the matter was held on Oct. 5th in the Persian Hall at 47, Brook-street, lent for that purpose by Mrs. Bland-Sutton. Lady Jersey, who presided, emphasised the fact that the clause had been rushed through too suddenly so that the association had not had an opportunity of placing its opinion before the legislature. She mentioned that the association amused the children at a cost of less than 6*d.* a head per annum. The clause gives the local educational authority power "to provide, for children attending a public elementary school, vacation schools, vacation classes, play centres, or means of recreation during their holidays, or at such other times as the local education authority may prescribe," and Sir E. Cornwall stated that though the estimated cost of the scheme was £20,000 he thought the cost would work out at something like £300,000 for London. The conclusion of the meeting was embodied in the following motion being carried, proposed by Sir E. Cornwall and seconded by Lord Sanderson:—

That this meeting considers that the amendment made to the Government Clause 35 in the Education Bill will not promote the best interests of organised play and recreation for the children of the elementary schools; and authorises the executive committee to take all possible steps to approach the Minister of Education and the House of Lords with a view to safeguarding the voluntary work of the Children's Happy Evenings Association and to secure a full consideration of the whole question.

SOURCE DES DEUX REINES, AIX-LES-BAINS.—A correspondent writes:—The thermal treatment of diathetic diseases such as gout and rheumatism, when associated with methodical massage and exercise, has for effect presumably to dislodge accumulations of waste products from the tissues and to throw them into the blood stream. The next step is to secure the elimination from the system of these "mobilised" waste products, for which purpose copious sudation and the systematic ingestion of comparatively large quantities of a moderately mineralised water are usually employed. At Aix-les-Bains, it has until recently been the practice, owing to lack of local facilities, to send patients on to Evian or other similar watering-places to complete the "cure" on these lines. Two or three years ago, however, a spring was discovered on the Mont Revard which by reason of its moderate mineralisation, its purity, and its abundance, promised to fulfil all requirements. The great difficulty here, as elsewhere, was to provide the funds to cover the cost of bringing the water into Aix under satisfactory hygienic conditions. The inhabitants subscribed the necessary capital and the *Source des Deux Reines* is now available for therapeutical purposes, so that the complete "cure" can be carried through on the spot. The water is brought into the town in deeply laid metal pipes and every precaution has been taken to secure freedom from all possible source of contamination both at its source and in course of distribution. It reaches the town at approximately the temperature of the water at the spring (46° F.). The undertaking is mainly due to the initiative of the local medical men, most of whom testified to their appreciation of the value of this innovation by subscribing part of the capital. Their participation in the undertaking, though only to the extent of a tenth of the

required capital, had the wished-for result of inspiring confidence so that no difficulty was experienced in obtaining the remainder.

DEATH OF A CENTENARIAN.—Mrs. Mary White, who completed her hundredth year in June last, died at the Stapleton workhouse, Bristol, on Oct. 9th.

MEDICAL MAGISTRATES.—Mr. Thomas Joseph Frost, L.R.C.P., L.R.C.S.Edin., L.F.P.S. Glasg., of Llanhilleth, near Newport, has been placed on the commission of the peace for Monmouthshire.—Mr. Percival Wood, M.R.C.S. Eng., L.R.C.P. Lond., has been made a justice of the peace for the county of Sussex.

THE LATE MR. GRÆME BISDEE FRASER.—The committee of the Children's Convalescent Home at Weston-super-Mare has issued an appeal for funds to erect a memorial to the late Mr. Fraser, who was for several years honorary medical officer to the institution and also to the Royal West of England Sanatorium in the same town. Mr. Fraser, who was highly respected in Weston-super-Mare, died quite recently from pneumonia after a very short illness.

THE GUILD OF ST. LUKE.—The annual medical service held under the auspices of the Guild of St. Luke took place at St. Paul's Cathedral on St. Luke's eve, Oct. 17th. There was a good attendance and there were many medical men present in their academic robes. The first lesson was read by Dr. H. A. Caley and the second by Sir Dyce Duckworth. The choir was drawn from the ranks of the London Gregorian Choral Association. The Rev. Canon Newbolt, warden of the guild, preached an eloquent sermon on the relationships of the two great professions of religion and medicine in ministering to the needs of mankind. The Rev. Canon concluded with an appeal on behalf of the College of St. Luke, the present income of which needed to be largely supplemented if the good work so successfully begun was to be continued.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the above society was held on Oct. 10th, Dr. G. F. Blandford, the President, being in the chair; 14 directors were present. Proposals for membership were read from two medical men and they were duly elected. Since the last court two widows, annuitants of the charity, had died and one had become ineligible for further grants owing to an increase of income; of the two who had died one had received in grants the sum of £621 and the other £500, their husbands having paid in subscriptions £52 10*s.* and £15 15*s.* respectively. The one who was no longer eligible had received £900, her husband having paid a composition fee of £21 for life membership at the time of his election. It was proposed that the sum of £556 should be distributed among the annuitants of the charity as a Christmas present, each widow to receive £10, each orphan £3, and those on the Copeland fund £5 each. Six letters asking for relief had been received during the past quarter but this had to be refused owing to the applicants being ineligible under the by-laws of the society, relief being only granted to the widows of deceased members and to orphans below the age of 16 years. Any registered medical practitioner resident within a radius of 20 miles from Charing Cross is eligible for membership. Further particulars may be obtained from the secretary, 11, Chandos-street, Cavendish-square, London, W.

THE QUESTION OF MATERNITY HOSPITALS IN THE TURKISH PROVINCES.—The Ministry of the Interior some time ago invited the provincial authorities of the Ottoman Empire to proceed, with as little delay as possible, to the construction, in the principal places of the various districts, of hospitals with special pavilions for women in confinement, and to create maternity sections in the already existing infirmaries. The necessary funds to cover the expenses had to be gathered by the respective local municipalities. The administrative council of the vilayet of Aidin has been lately considering the question and declares in its latest report that it would be, for that vilayet, absolutely impossible to find sufficient resources for the foundation of such establishments. The report mentions also the fact that even if it were possible to construct them they would not serve the purpose in an efficient manner, as the female population of the different districts could not take advantage of them, the distances being so great and demanding sometimes a ten-hours' drive from one place to another. Even in the principal centres it would be very difficult, almost impossible, to bring a parturient woman, whose confinement requires instrumental or surgical interference, to the hospital of a chief district. The council therefore proposes, according to local newspapers, a simpler method of assistance. It consists in engaging for every two or three *cazas* (districts) a qualified accoucheur with necessary experience and equipped with a complete set of instruments, &c., whose duty it should be to render the required assistance at the first call and to visit in person the places where his presence would be necessary. The allowances of these accoucheurs should, it is considered, be paid by the municipality of Smyrna.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The annual dinner of the Brussels Medical Graduates' Association will take place at the New Gaiety Restaurant, Strand, W.C., on Tuesday, Oct. 30th, at 7.30 P.M. On previous occasions the dinner has been preceded by the annual meeting, held during July, but it is anticipated that by holding it at this time of the year a much larger attendance will be secured. This year also an innovation is introduced by a special invitation to all members to bring ladies as guests. The price of the dinner is 7*s.* 6*d.*, exclusive of wine. Application for tickets should be made to Dr. Francis H. Edwards, honorary secretary, Camberwell House, S.E.

TENTH ANNUAL MEDICAL CONGRESS OF ROUMANIA.—The Franco-English newspaper, the *Levant Herald*, published in Constantinople, gives interesting details of the above congress which is organised by the General Medical Association of Roumania. Its tenth annual meeting has lately taken place in the bacteriological amphitheatre of the medical faculty of the University of Bucharest. General Mano (Minister of the Interior and President of the Medical Council *ad interim*), Dr. Obreja, (Director General of the Sanitary Service of Roumania), and about 200 medical men from all parts of the country were present. Dr. Leonte, the President of the Congress, in his opening address thanked the Roumanian Government for the interest which it takes in the medical and sanitary service organised by the association. He mentioned with special gratitude the important modification of the pension law, according to which all the State medical men would henceforward enjoy the right to a retiring allowance. Dr. Leonte also said that the sanitation of the country would more quickly be improved, thanks to the funds which were coming in from the State lottery and to the foundation of new rural hospitals. He expressed the hope that the recent sanitary law would be submitted to, and would receive proper attention from, the House of Parliament at the opening of its new session. General Mano said in his address that he was present at the congress not only in his capacity as Minister of the Interior but also as a sincere friend of the medical profession, for which he felt great affection and esteem. Dr. Obreja rendered homage to the representatives of the medical body and described in a few words the new project relative to the modification of the sanitary law. He also referred to the charitable spirit of the King who had founded in different places of the country 32 new rural hospitals. Dr. Gheorghian, the general secretary of the association, gave a detailed report of the administration of the central committee of the association for the year 1905–1906 and spoke with eloquence of the progress accomplished by the medical body during the last 40 years.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, Bartholomew Close, London.

The Puerperium or the Management of the Lying-in Woman and Newborn Infant. By C. Nepean Longridge, M.D., Ch.B. Vict., F.R.C.S. Eng., M.R.C.P. Lond., Pathologist and Registrar, late Resident Medical Officer at Queen Charlotte's Lying-in Hospital. Price 5*s.*

ARNOLD, EDWARD, 41 and 43, Maddox-street, Bond-street, London, W.

The Diagnosis of Nervous Diseases. By Purves Stewart, M.A., M.D., F.R.C.P., Physician to Out-patients at the Westminster Hospital, Joint-Lecturer on Medicine in the Medical School, Physician to the Royal National Orthopædic Hospital, Assistant Physician to the Italian Hospital. Price 15*s.* net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent Garden, London, W.C.

The Common-Sense of Voice Development. By Irene San Carolo, Licentiate of the Royal Academy of Music, Associate of the

Royal College of Music, and Patrick Daniel, D.P.H., L.M.S., L.R.C.P., M.R.C.S. Eng. Price 5s. net.

The Nature and Treatment of Cancer. By John A. Shaw-Mackenzie, M.D. Lond. Fourth edition, revised. Price 2s. 6d. net.

BLACKWOOD, WILLIAM, AND SONS, Edinburgh and London.

The $CHCl_3$ Problem. By Richard Gill, B.Sc., M.B., B.S. Lond. Univ., F.R.C.S. Eng., Chief Chloroformist to St. Bartholomew's Hospital. Vol. I. Analysis. Vol. II. The Physiological Action of $CHCl_3$. Price 10s. net, 2 volumes.

CONSTABLE, ARCHIBALD, AND CO., LIMITED, London.

The Life of Pasteur. By René Vallery-Radot. Translated from the French by Mrs. R. L. Devonshire. Popular Edition. Price 7s. 6d. net.

DENT, J. M., AND CO., 29 and 30, Bedford-street, London, W.C.

Sir William Flower. By R. Lydekker. (English Men of Science. Edited by J. Reynolds Green, Sc.D.) Price 2s. 6d. net.

DUCKWORTH AND CO., 3, Henrietta-street, Covent Garden, London, W.C.

Text-book of Fungi. Including Morphology, Physiology, Pathology, Classification, &c. By George Massee, Principal Assistant (Cryptogams) Herbarium, Royal Botanic Gardens, Kew. Price 6s. net.

GILL, GEORGE, AND SONS, LIMITED, 13, Warwick-lane, London, E.C.

Nursing at Home. With Chapters on the Care of Infants and Children. By J. D. E. Mortimer, M.B. Lond., F.R.C.S. Eng., Lecturer and Examiner, London County Council, formerly Registrar at the Hospital for Sick Children, and R. J. Collie, M.D. Aberdeen, Medical Superintendent of the Hygiene, Ambulance, and Home Nursing Classes of the London County Council. Price 3d. net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

Green's Encyclopædia and Dictionary of Medicine and Surgery. Vol. II. Bread to Ear. Price not stated.

LEWIS, H. K., 136, Gower-street, London, W.C.

Medical Electricity. A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D., F.R.C.P. Lond., Medical Officer in Charge of the Electrical Department in St. Bartholomew's Hospital, late President of the British Electro-Therapeutic Society. Fifth edition. Price 12s. 6d. net.

Aequanimitas. With other Addresses to Medical Students, Nurses, and Practitioners of Medicine. By William Osler, M.D., F.R.S., Regius Professor of Medicine, Oxford. Second edition, with three Additional Addresses. Price 8s.

MACMILLAN AND CO., LIMITED, London.

Collected Papers on Circulation and Respiration. First Series, chiefly containing Laboratory Researches. By Sir Lauder Brunton, M.D., D.Sc., LL.D. (Edin. and Aberd.), F.R.S., F.R.C.P. Price 7s. 6d. net.

The Cambridge Natural History. Edited by S. F. Harmer, Sc.D., F.R.S., and A. E. Shipley, M.A., F.R.S. Vol. I. Protozoa. By Marcus Hartog, M.A. Porifera (Sponges). By Igerna B. J. Sollas, B.Sc. Lond. Coelenterata and Ctenophora. By S. J. Hickson, M.A., F.R.S. Echinodermata. By E. W. MacBride, M.A., F.R.S. Cash price in Great Britain, 17s. net.

PUBLICATIONS COMMITTEE, UNIVERSITY OF ABERDEEN.

Studies in Pathology. Written by Alumni to celebrate the Quatercentenary of the University of Aberdeen and the Quatercentenary of the Chair of Pathology therein. Edited by William Bulloch, M.D., Bacteriologist to the London Hospital.

REBMAN, LIMITED, 129, Shaftesbury-avenue, London, W.C.

The Diseases of Women. A Handbook for Students and Practitioners. By J. Bland-Sutton, F.R.C.S. Eng., Surgeon to the Middlesex Hospital, and Senior Surgeon to the Chelsea Hospital for Women, and Arthur E. Giles, M.D., B.Sc. Lond., F.R.C.S. Edin., Surgeon to the Chelsea Hospital for Women, and Gynæcologist to the Tottenham Hospital. Fifth edition. Price 11s. net.

THE YEAR BOOK PUBLISHERS, 40, Dearborn-street, Chicago. (G. GILLIES AND CO., 28, Gibson-street, Hillhead, Glasgow.)

The Practical Medicine Series, comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School.

Vol. I. General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, A.M., M.D. Price 5s.

Vol. II. General Surgery. Edited by John B. Murphy, A.M., M.D., LL.D. Price 5s.

Vol. III. The Eye, Ear, Nose, and Throat. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D. Price 5s.

Vol. V. Obstetrics. Edited by Joseph B. De Lee, A.M., M.D., D. Roehler, M.D., and Herbert M. Stowe, M.D. Price 5s.

Vol. VI. General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, M.D. Price 5s.

Price for complete series of 10 volumes (carriage paid), £2 2s.

UNIVERSITY PRESS, Manchester. (SHERRATT AND HUGHES, 60, Chandos-street, London, W.C.)

Text-book on Diseases of the Heart. By Graham Steell, M.D., F.R.C.P., Senior Physician to the Manchester Royal Infirmary. With an Appendix on The Volume of Blood in Relation to Heart Disease. By J. Lorrain Smith, M.A., M.D., Professor of Pathology. Price 7s. 6d. net.

WRIGHT, JOHN AND CO., Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT AND CO., LIMITED, London.)

Golden Rules of Medical Evidence. By Stanley B. Atkinson, M.A., M.B., B.Sc., of the Inner Temple, Barrister-at-Law; a Justice of the Peace for the County of London; Hon. Sec. of the Medico-Legal Society (London). "Golden Rules" Series. No. XVI. Price 1s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

EMTAGE, EDWARD WALTER, M.R.C.S., L.S.A., has been appointed Medical Officer of Health for the Bideford (Devon) Rural District.

HAMMOND, E. A., M.D., C.M., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

HASWELL, NARCIS RICHARD, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Helston (Cornwall) Rural District Council.

KENNEDY, EDWARD, L.R.C.P. & S. Irel., has been appointed Clinical Assistant at St John's Hospital for Diseases of the Skin, Leicester-square, W.C.

MCGLASHAN, J., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Newhaven District of the county of Sussex.

M'QUEEN, J., M.B., Ch.B. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Cumnock District of the county of Ayr.

NUTTALL, G. H. F., F.R.S., has been appointed to the newly created Quick Professorship of Biology at Cambridge University.

ST. JOHNSTON, T. R., M.R.C.S., L.R.C.P., L.S.A., has been appointed Second Resident Medical Officer to the Lewisham Infirmary, S.E.

THOMPSON, A. G., M.B., B.Ch. Oxon., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WILSON, THOMAS, F.R.C.S. Irel., L.R.C.P. Irel., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin Leicester-square, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Assistant Physician. Also Senior and Junior Resident Medical Officers, the former for six months and the latter for seven months. Honorarium at rate of £20 and £10 a year respectively, with board and lodging.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund street.—House Surgeon. Salary at rate of £70 per annum.

BIRMINGHAM, ASTON UNION WORKHOUSE AND COTTAGE HOMES, Gravelly Hill.—Assistant Medical Officer. Salary £140 per annum, with apartments, rations, and washing.

BODMIN, CORNWALL COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £180, with board, apartments, washing, &c.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100.

BRADFORD ROYAL INFIRMARY.—House Physician. Also House Surgeon. Salaries £100 per annum, with board and residence.

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

CANCER HOSPITAL, Fulham-road, S.W.—Surgical Registrar. Honorarium £26 5s. per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Pathologist. Salary 100 guineas per annum.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, lodging, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance. Also Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, washing, and attendance.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £120, with board and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

HORNSEY TOWN COUNCIL.—Assistant to Medical Officer of Health. Salary £150, with rooms and board.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HOSPITAL FOR WOMEN, Soho-square, W.—House Physician for six months. Salary £30.

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £120, without board; £80, with board, and £20 extra for dispensing.

LANARK, MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £140 per annum, with board, &c.

LONDON SKIN HOSPITAL, Fitzroy-square, W.—Clinical Assistant.

MACCLESFIELD, PARKSIDE ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £140, rising to £160, with apartments, board, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £60, with board, residence, and washing.

MANCHESTER, CRUMPSALL WORKHOUSE.—Medical Officer. Salary £230 per annum.

MANCHESTER POOR-LAW SCHOOLS, Swinton.—Medical Officer. Salary £140 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer. Salary £50 per annum.

MEDICAL DEPARTMENT OF THE ROYAL NAVY.—Examination for not more than Six Commissions.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Honorary Anæsthetist.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—Clinical Assistant (female).

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—House Surgeon and House Physician. Salary in each case £110, with board and residence.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—Superintendent of the Laboratory.

ROYAL EAR HOSPITAL, Dean-street, Soho, London, W.—Clinical Assistants.

ST GEORGE'S HOSPITAL, S.W.—Assistant Surgeon.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.—Honorary Anæsthetist.

SALFORD ROYAL HOSPITAL.—Accident House Surgeon and Junior House Surgeon. Salaries at rate of £60 and £50 per annum respectively, with board and residence.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Anæsthetist. Honorarium £20 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.

STOCKPORT, STEPPING HILL HOSPITAL.—Resident Assistant Medical Officer. Salary £130 per annum, rising to £150, with apartments, rations, &c.

SUNDERLAND INFIRMARY.—House Physician and Pathologist. Salary £80 per annum, with board, residence, and washing.

THROAT HOSPITAL, Golden-square, W.—Anæsthetist. Also Senior Clinical Assistant.

WANDSWORTH UNION INFIRMARY, St. John's hill, Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £100 a year, with board, lodging, and washing.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

WINDSOR AND ETON ROYAL DISPENSARY AND INFIRMARY.—House Surgeon, unmarried. Salary £120 per annum, with residence, board, laundry, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £75 per annum, with board, lodging, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Nantgaredig, in the county of Carmarthen, at Sutton Bridge in the county of Lincoln, and at Cullen, in the county of Banff.

Births, Marriages, and Deaths.

BIRTHS.

BOYER.—Oct. 14th, at Temperley, Buenos Ayres, Argentine Republic, to Mr. and Mrs. Louis J. Boyer—a daughter. Australian papers please copy.

MYERS.—On Oct. 12th, at the residence of her parents, the wife of Charles S. Myers, M.A., M.D. Cambridge, of a son.

ORMEROD.—On Oct. 7th, at Beauchamp Lodge, Wimborne, the wife of Ernest W. Ormerod, M.D., of a son.

PITT.—On the 12th October, at Wellesbourne, near Warwick, the wife of R. J. Pitt, L.F.P.S.G., and L.S.A., of a daughter.

VIZARD.—On Sept. 28th, at Ireland Island, Bermuda, the wife of Staff-Surgeon A. H. H. Vizard, M.D., Royal Navy, of a daughter.

MARRIAGE.

NUTTALL—LOXHAM.—On the 9th inst., by the Rev. J. Bell Cox, at St. Margaret's, Princes-road, John Stanley Wardleworth Nuttall, M.B., of Belgrave-road, Darwen, to Violet Leigh, second daughter of Mrs. Loxham of 25, Sandon-street, Falkner-square, Liverpool. At home, Thursday and Friday, Nov. 22nd and 23rd.

DEATHS.

LAMPREY.—On Oct. 13th, Richard Orford Lamprey, aged 62 years, of Wandsworth.

SYERS.—On Wednesday, Oct. 10th, 1906, from blood-poisoning contracted in the practice of his profession, Henry Walter Syers, M.A., M.D. Cantab., &c., of 75, Wimpole-street, Physician to the Great Northern Central Hospital, aged 54.

WILLS.—On Oct. 12th, at Lunecliffe, Lancaster, Lieutenant-Colonel Caleb Shera Wills, C.B., R.A.M.C. (retired), aged 72.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"DULCE DOMUM."

Sir James Crichton-Browne, who has been described as the Chrysostom of the medical profession, evidently possesses the gift of versifying as well as of eloquence, for the September number of *Alma Mater* (the magazine of the University of Aberdeen) contains a very spirited English version of "Dulce Domum" from his pen. It is, of course, the quatercentenary celebrations at the University of Aberdeen that have inspired his muse. Four of his 14 stanzas are as follows:—

"Back they troop from manse and market,
Crowded Salon's polished parquet,
Lonely bouldered glen,
From the Arctic and the Tropic,
Mercenary, philanthropic,
Multifarious men.

Bishops, Judges, Navigators,
Indian Administrators,
Pundits fat and lean,
Soldiers, Pedagogues, and Surgeons,
Sticklebacks and Royal Sturgeons,
Hie to Aberdeen.

* * * *

I remember Johnnie Struthers,
Who, with Stephenson and others,
Toiled like busy bees,
To produce from raw material,
Scottish, English, and Imperial,
Passable M.D.'s.

Dulce domum est redire,
When from nestlings blithe or eerie,
That their homes they call,
They return to springs of knowledge,
Welling still in each old College,
King's and Marischal."

A HEROIC DOSE OF PHENACETIN.

To the Editors of THE LANCET.

SIRS,—The following account of the indiscriminate use of drug taking by the public without medical advice may be of interest. A servant girl, aged 23 years, had been for a long time a sufferer from intense headache with vomiting. Coming to the conclusion that hospital advice and medical treatment were of no avail she took the law into her own hands by going to a druggist's shop where she obtained a bottle of phenacetin tablets (25, five-grain dose) and an antipyrin powder (ten grains). She managed to swallow the tablets and powder inside five minutes, and an hour afterwards asked leave to go and buy another bottle. Eight hours afterwards she complained of loss of power in the limbs and on the next morning she was dazed and stupid, saying that she felt as if recovering from the effects of chloroform. Fortunately she had not crushed the tablets before swallowing, but at any rate 125 grains for a dose, without fatal results, must be near a record.

I am, Sirs, yours faithfully,

Oct. 16th, 1906. W. W. BELL, L.S.A. Lond.

A MEDICAL ALIAS.

A VERY undesirable alien was ordered recently at Marlborough-street police court to undergo three months' imprisonment, at the end of which sentence he will be recommended for deportation. He was charged with living upon the prostitution of a woman who gave evidence against him and he was well-known to the police as one of the class of men who exist by these means. His real name was Krappert but the alias by which he was apparently best known was that of Dr. Williams, and as persons of his class who adopt medical titles frequently do so with a view to dangerous criminal practices it is satisfactory to know that compulsory return to Germany will follow the conclusion of his term of imprisonment. It was stated that he had evaded military service in his own country.

A COINCIDENCE.

To the Editors of THE LANCET.

SIRS,—I note in THE LANCET of Oct. 6th a letter from Mr. Fredk. W. Smith headed "A Coincidence." Another coincidence in which Smiths figured prominently may interest him. In 1902 I received a telephonic message that a Mr. Smith had died suddenly, would I go at once. I went and found facts as stated and returned home to advise the coroner. Upon reaching my house I was informed that there had been another message stating that a Mr. Smith at another address had been taken suddenly ill and they were afraid he was dead. This was also a fact. I therefore had two sudden deaths to notify to the coroner, the one being William John and the other John William Smith. These two were in no way related and neither had been previously professionally treated. Upon the day of the inquest a third inquiry was held upon the sudden death of another William Smith, and it transpired that all three must have died at practically

the same time. The coincidence was sufficiently marked to earn a paragraph in the evening papers, in which they were unkind enough to state that two of these Smiths had been under the "treatment" of the same doctor, the readers apparently being left to draw their own conclusions.

I am, Sirs, yours faithfully,

North Kensington, Oct. 12th, 1906. S. H. GREENE.

QUININE IN CEYLON.

CEYLON'S 4,000,000 inhabitants maintain a fair standard of health, to which happy condition a climate almost unsurpassed for variety does much to contribute. But malarial fever is one of the scourges of the island and last year the North-Western and Sabaragamuwa Provinces suffered in this respect more than usual. Accordingly the experiment of administering quinine regularly as a prophylactic, already tried with some success on the prisoners in Mahara and Mutwal jails, was extended to an area in the North-Western Province, and the results obtained in one of the villages are recorded in the annual report on Ceylon for 1905 just issued by the Colonial Office. Of 232 villagers who were treated with quinine 36 (or 15·5 per cent.) suffered from malaria, while of 210 boutique-keepers and 24 villagers who were not treated with quinine 140 (or 66 per cent.) of the former and 12 (or 50 per cent.) of the latter suffered from malaria. The number of people in the village was 466. Commenting on the matter in an introductory note to the report, the Governor, Sir Henry A. Blake, observes: "I have arranged with the principal civil medical officer to extend this experiment to all malarial districts during the present year by grouping the villages and sending to each group an itinerant dispenser, who will administer quinine at regular intervals during the malarial season, while all schools will be similarly treated. The result of the experiment cannot fail to be interesting, and will, I hope, be satisfactory."

LITERARY QUERIES.

To the Editors of THE LANCET.

SIRS,—Could you let me know where, in London, I could consult Dr. McGregor's Report on Malaria in Egypt and in Italy (1902) and the Reports of the "Congrès Egyptien de Médecine" held in Cairo?

I am, Sirs, yours faithfully,

MALARIA.

*** We should think that our correspondent could most probably see the documents about which he inquires in the library of the London School of Tropical Medicine, Connaught-road, Albert Dock, E., by application to the secretary.—ED. L.

YELLOW FEVER IN CUBA.

YELLOW fever, though not rife in Cuba, is still prevalent to such an extent as to cause a considerable amount of uneasiness. In Havana, according to the *New York Times* of Oct. 2nd, there were five cases, and there were several suspected cases at Cienfuegas and elsewhere in Santa Clara province. It is also said that transportation, hotel, and other interests most affected by the American quarantine against Cuba are preparing to petition Governor Taft that the United States, whether the present American control be temporary or otherwise, should retain permanent control of the sanitary affairs of Cuba.

POPULAR WORKS ON HYGIENE.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly refer me to a small popular work on "Hygiene" or such allied subject? I have been asked to give a lecture on a popular medical subject to the members of a literary society this winter and have chosen the above as my subject, but am not bound down to this exclusively. Such a subject as "Recreation and Health" would suit equally well. Thanking you in anticipation,

I am, Sirs, yours faithfully,

ESSAYIST.

THE DATING OF BOOKS.

IN THE LANCET of Sept. 15th we reviewed "A System of Surgical Nursing." We were able to speak very favourably of the book but we complained that the book was undated. The publishers have now informed us that the date was given with the printers' imprint and at the end of the preface. This is so, but the fact remains that the title-page does not contain the date, and for the last 400 years readers have been able to find on the title-page the date of the publication of any book and we maintain that they have a right to find it there. There has been a tendency in recent years and with certain publishers to omit the date of publication from the title-page, with what object we will not venture to guess. This tendency is to be regretted and we hope that in future all publishers will explicitly state on the title-page the year in which the book appears.

MEDICAL ANECDOTES.

To the Editors of THE LANCET.

SIRS,—I am making a collection of humorous incidents and repartee relating to doctors, surgeons, and the medical profession generally. May I ask any members of the profession under whose notice any such incidents have come to favour me with them, giving, so far as necessary, any explanation of the circumstances?

I am, Sirs, yours faithfully,

2, Pump-court, Middle Temple, E.C., RUDOLPH DE CORDOVA.
Oct. 12th, 1906.

Messrs. Allen and Hanburys ask us to state that the general conduct of their business is in no way interfered with by the fire which broke out in the Bethnal Green works on the night of Thursday, Oct. 11th. The fire was confined to two large buildings used respectively for the bottling of oils and the manufacture of hospital furniture. The warehouses, laboratories, offices, and printing department were in no way affected and there is consequently no interruption whatever of business.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (3 P.M.).

TUESDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (24th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (25th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (3 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (27th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (22nd).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M.: Paper:—Dr. Dudgeon and Mr. P. Sargent: The Bacteriology of Aseptic Wounds.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M.: Council. 8 P.M.: Inaugural Address:—Mr. E. Lloyd-Williams (President). Discussion on Mr. F. L. Dodd's paper on Some Notes on the Relation of Dental Conditions to Pulmonary Tuberculosis (postponed from the June meeting) (opened by Mr. J. F. Colyer). The Meeting will be made Special for the final consideration of the Scheme for the Union of Medical Societies, and a vote will be taken.

TUESDAY (23rd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Dr. A. M. Gossage: On Some Aspects of Dilatation of the Heart (with epidiascope demonstration).

MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8.15 P.M.: Annual General Meeting. Election of Officers and Council. Discussion on Is what is commonly known as Euthanasia ever Justifiable? (opened by Dr. R. Wells).

WEDNESDAY (24th).—HUNTERIAN SOCIETY (Metropolitan Hospital, Kingsland-road, N.E.).—4 P.M.: Clinical Afternoon.

THURSDAY (25th).—HARVEIAN SOCIETY OF LONDON (St. Mary's Hospital).—8 P.M.: Cases will be shown by Dr. S. Phillips, Dr. A. P. Luff, Dr. W. Harris, Dr. J. Broadbent, Dr. S. Spicer, and Mr. J. Clarke. 8.45 P.M.: Clinical Meeting.

FRIDAY (26th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M.: Clinical Evening for the Exhibition of Clinical Cases followed by Discussion. Patients in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 3 P.M.: Lecture:—Dr. Saunders: Clinical.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. G. Little: Clinique. (Skin.) 5.15 P.M.: Lecture:—Dr. P. Stewart: Recurrent and Transient Palsies.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth: Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (23rd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—Dr. G. C. Low: Ankylostomiasis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Harris: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. D. Grant: On Menière's Disease and Allied Conditions.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Ferrier: Cases in the Wards.

CHARING CROSS HOSPITAL.—4 P.M.: Demonstration:—Dr. Mercier: (Mental). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Mr. Wells and Mr. Maclehose: Classes of Instruction in the Use of the Ophthalmoscope, with Demonstrations of Cases.

WEDNESDAY (24th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Berry: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. G. H. Savage: The Insanities of Visceral Diseases.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Wells: Medicine. 3.15 P.M.: Mr. M. Robson: Surgery. 4 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Dr. W. Wingrave: Clinical Pathology.

THURSDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. C. O. Hawthorne: The Field of Vision in Health and Disease.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Hunter: Demonstration (Medical). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—8 P.M.: Lecture-Demonstration:—Dr. C. O. Hawthorne: Medical Ophthalmology.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: The Treatment of Eczema in all its Forms.

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Dr. Batten: Infantile Diarrhœa, with Especial Reference to its Treatment by Lactated Milk.

FRIDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—Mr. Pardoe: On the Diagnosis of Surgical Diseases of the Kidneys and Ureters.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. Horne. Clinique. (Ear.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir Victor Horsley: Surgery of the Nervous System.

SATURDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 18th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 12	29·76	S.W.	...	104	65	54	53	56	Fine
,, 13	29·57	N.	0·10	91	56	51	50	51	Cloudy
,, 14	29·88	N.	...	90	51	49	47	49	Fine
,, 15	29·83	WSW	...	73	60	40	49	50	Cloudy
,, 16	29·72	WSW	...	89	62	50	52	54	Cloudy
,, 17	29·79	S.W.	...	106	63	53	56	58	Cloudy
,, 18	29·79	S.W.	0·07	90	63	55	55	58	Cloudy

During the week marked copies of the following newspapers have been received:—*Chicago Eagle, Western Morning News, Yorkshire Post, Cork Constitution, Standard, Daily Chronicle, Morning Leader, Daily News, Daily Telegraph, Birkenhead Advertiser, Manchester City News, Kettering Leader, Derbyshire Courier, Westminster Gazette, Wimbledon Boro' News, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. R. J. Albery, Lond.; Advisory Committee for Plague Investigation in India, Lond.; Mr. H. Brunton Angus, Newcastle-on-Tyne; Professor Clifford Allbutt, Cambridge; Dr. B. Anningson, Cambridge; Mr. E. Arnold, Lond.; Messrs Aked and Aked, Lond.; Aston Union, Clerk of.

B.—Mr. Horace Bailey, Monmouth; Mr. J. F. Briscoe Alton; Messrs. David Bryce and Son, Glasgow; Messrs. Burroughs, Wellcome, and Co., Lond.; Lieutenant-Colonel C. Birt, R.A.M.C., Lond.; Messrs. Barker and Brand, Lond.; Buntingford House, Buntingford, Medical Superintendent of; Dr Adolph Bronner, Bradford; Miss Constance Cheyne Brady, Cannes; Sir Lauder Brunton, Lond.; Mr. W. H. Baker, Lond.; Mrs. Bosshardt, Lond.

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F.—Mr. Thomas Farrow, Lond.; F.R.C.S., Tavistock-place.

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N.—National Council of Nurses, Provisional Committee of, Lond., Hon. Secretary of; Nurses' Co-operation, Liverpool, Superintendent of; Northumberland House, Lond., Medical Superintendent of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Dr. Thomas Oliver, Newcastle-on-Tyne.

P.—Mr. H. F. Powell, Nenagh; Mr. A. J. Pressland, Edinburgh; Parkside Asylum, Macclesfield, Clerk to the; Messrs. Peacock and Hadley, Lond.

R.—Lieutenant-Colonel H. D. Rowan, R.A.M.C., Lahore; Messrs. Richardson and Co., Lond.; Dr J. Ramsay, York; Messrs. Reynolds and Branson, Leeds; R. M. M., Lond.

S.—Lieutenant-Colonel D. B. Spencer, I.M.S., Mauritius; Dr. David Sandler, Constantinople; Dr. H. J. Starling, Norwich; Standard Emulsion Co., New York; Stamford Hill Dispensary, Secretary of; Salford Royal Hospital, Secretary of; *School World*, Lond., Editor of; Sunderland Infirmary, Secretary of; Mr. R. M. Simmons, Lond.; Stockport Union, Clerk of; Scholastic, Clerical, &c., Association, Lond.

V.—Mr. D. Vinrace, Lond.; Vitalia, Ltd.; Lond.

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Y.—Mr. Macleod Yearsley, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Arnold and Co., Lond.; Apothecaries' Hall of Ireland, Dublin, Secretary of; A. L.; A. T. G.; A. B., Isleworth; Dr. E. Albertelli, Salsomaggiore.

B.—Mr. R. J. Bryden, Gravesend; Messrs. Bray and Co., Bexhill; Dr. Bauer, Neuchatel; Dr. D. Brown, Greenock; Mr. T. B. Browne, Lond.; Miss A. Bull, Weston-super-Mare.

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